We took a brite idea and enhanced its performance.

Introducing the TRIAD® MULTIMODE Plate Reader from DYNEX

TRIAD® and TRIAD LT® Multi-mode Plate Readers from DYNEX are the brightest ideas yet for the research laboratory that needs high-performance from a microplate reader. Powered by innovative DynaBrite™ digital LED based technology, the TRIAD® series of readers are extremely reliable systems that combine fluorescence, luminescence and absorbance capabilities in one affordable package.

DynaBrite POWERED

DynaBrite™ LED-Based Detection Optics ensure excellent instrument performance while providing a most stable and rugged, low maintenance instrument that can operate effectively in virtually any laboratory environment with no signal degradation. When used in combination with any of a wide range of available filter slides, the DynaBrite technology allows for customization and expansion as needs change. With DynaBrite technology, you'll never have to change a bulb again.

- Excellent Performance Across all Detection Modes
- Virtually Maintenance Free Design
- Exceptionally Easy to Operate and Maintain
- Highly Intuitive Operating Software
- Best Value in Multimode Detection
- Backed by DYNEX's Decades of Experience in Microplate Readers

For Performance, Power & Price look to TRIAD and TRIAD LT, the newest and brightest lights in microplate assay technology.

DYNEX
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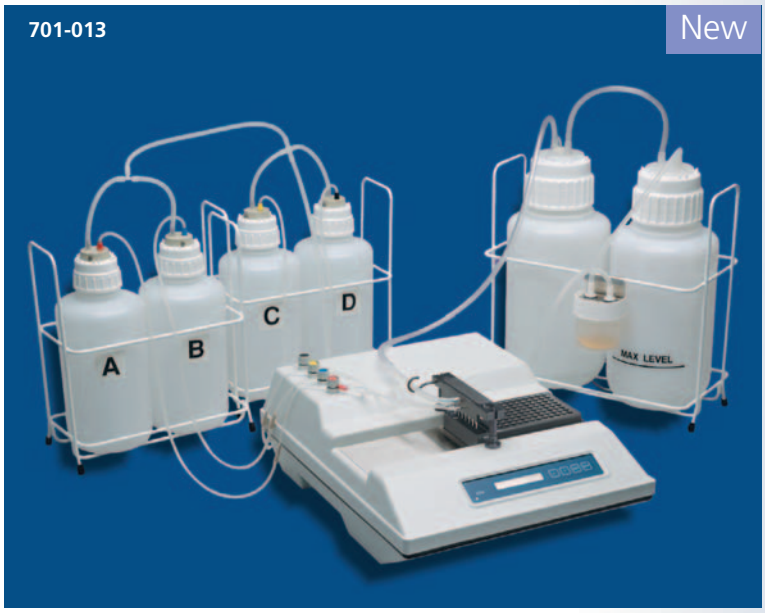
P3

PERFORMANCE • POWER • PRICE

For more details on this and other DYNEX products please contact Jencons-PLS Technical Office.
Tel: 01342 826836 Fax: 01342 826771 Email: techsales@jencons.co.uk

Dynex Technologies, Multi-Reagent 96-Well Microplate Washers



The Multi-Reagent washer washes microplates in a 1x8 or 2x8 strip format. It has a capacity of up to 4 different wash solutions, 40 user-definable wash protocols and 10 microplate settings.

- 8- and 16-channel wash heads/manifolds for 96-well microplates
- Multiple reagent option – up to 4 different reagent lines for laboratories with multiple users or assays with complex wash sequences
- Speed – a complete 96-well plate can be washed in under 30 seconds
- Programmable – saves up to 40 programs with 10 plate types
- Variable wash parameters – dispense volume, number of dispense steps, wash fluid selection, soak time, aspirate time and type and number of cycles
- Clean cycle – each program can include a rinse cycle and regular system flushes can be set up to run every 1 minute to every 24 hours
- Large wash and aspirate volume – 4 litre wash bottles are available
- Super aspirate – bottom aspirate with sweep feature ensures minimal residual volume in wells
- Fail safe mechanism – a full waste bottle causes an audible alarm to sound and the washer pauses, protecting the system from overflow damage

Specifications

Washing speed	<60 seconds 1x8 format, <30 seconds 2x8 format
Microplate formats	96-well
Manifolds/wash heads	8- and 16-channel
Wash sequences/programs	40
Dispensing volumes	50 - 2500µl (1µl increments)
Dispensing precision	±5%CV
Residual volume per well	<1µl U & V bottom plates, <5µl Flat bottom plates
Soak time, seconds	1 to 999
Dimensions (wxdxh), mm	432x340x170
Electrical requirements	110-120V or 220-240V, 50 or 60Hz
Weight, kg	6.5

Cat. No.	Description	Price
701-011	Multi-Reagent washer with 8- and 16-channel wash heads, pump, 2x2 litre reagent bottles, 2x4 litre waste bottles, tubing and all cables	POA
701-012	Multi-Reagent washer with 8- and 16-channel wash heads, pump, 2x4 litre reagent bottles, 2x4 litre waste bottles, tubing and all cables	POA
701-013	Multi-Reagent washer with 8- and 16-channel wash heads, pump, 4x2 litre reagent bottles, 2x4 litre waste bottles, tubing and all cables	POA

New

Dynex Technologies, Ultrawash PLUS 96-Well Microplate Washer

The Ultrawash PLUS is a fast, programmable 96-channel microplate washer. It has on-board storage for 20 user-definable wash protocols and 5 microplate type settings. The Ultrawash PLUS is suitable for high volume applications.

The Ultrawash PLUS includes the pump, bottles, tubing, cables and manual.

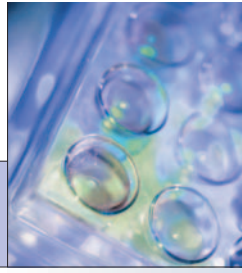
- 96-channel manifold for 96-well microplates
- Speed – 96-well manifold washes a complete plate in as little as 13 seconds
- Programmable – saves up to 20 protocols and 5 plate types
- Variable wash parameters – dispense volume, soak time, aspirate time and number of wash cycles
- High volume – 2x4 litre wash and waste bottles provide large capacity and are held in a rack for easy handling
- Clean cycle – additional fluid bottle allows a cleaning fluid to be flushed through the system on demand
- Quick fit connectors – both the tubing and dispense/aspirate head can be quickly connected and disconnected
- Overflow alarm – alerts user when waste is full and pauses wash cycle

Specification

Washing speed	Adjustable 1–9
Microplate formats	96-well, Flat, 'U', 'V' and 'C' shaped wells
Manifolds/wash heads	96-channel
Number of wash liquid channels	2 wash/rinse channels
Wash sequences/programs	20
Dispensing volumes	50–500µl
Dispensing precision	±10%CV (with 200µl distilled water across 96 wells)
Residual volume per well	<3µl
Soak time, seconds	0 to 90
Dispense bottle	2x4L container
Waste bottle	2x4L container with level (full) sensor
Dimensions (wxdxh), mm	
Primary unit	201x409x249
Vacuum/pressure unit	178x305x242
Bottle holder	160x541x130
Electrical requirements	230V, 60Hz, 6A*
Weight, kg	
Primary unit	7.98
Vacuum/pressure unit	8.16
Bottle holder	1.54

* *115V versions are available, please contact our Technical Office for details on 01342 826836.*

Cat. No.	Description	Price
701-005	Ultrawash Plus 96-channel microplate washer supplied with pump, bottle set and full tubing set	POA



Dynex Technologies, OPSYS MW Microplate Strip Washer

The OPSYS MW is an economical, fully featured 96-well microplate strip washer that compliments the OPSYS MR microplate reader. The OPSYS MW is an excellent choice for many laboratories due to its simplicity, ease-of-use, flexible and intuitive protocol definition. Choice of 12-way (row) or 8-way (column) microplate washing for full plates or strips. These can be interchanged as an optional extra.

- 8 or 12-channel wash heads/manifold for 96-well microplates
- Combine prime, dispense, soak and aspirate steps in any order, defining the duration and repetition of each protocol step
- Define, name, save and password protect up to 10 microplate definitions for optimal wash performance
- Sweep mode aspiration provided a 'sweeping' wash head movement during aspiration to achieve reproducibly low residual volumes
- On-board self-diagnostic routines automatically assure operational performance
- Compact dimensions conserve valuable bench space
- CE marked

Specifications

Washing speed	<4 min (typical 5-cycle wash protocol with 8-way wash head)
Microplate formats	96-well
Manifolds/wash heads	8 or 12-channel
Number of wash liquid channels	1
Wash sequences/programs	Saves 40 named wash protocols
Dispensing volumes	50–900µl (1µl increments)
Dispensing precision	±5%CV (with 300µl distilled water across 96 wells)
Residual volume per well	<1µl U & V bottom plates, <5µl Flat bottom plates
Soak time, seconds	1 to 999
Dispense bottle	4L container
Waste bottle	4L container with level (full) sensor
Dimensions (wxdxh), mm	490x380x190
Electrical requirements	110–120V or 220–240V, 50 or 60Hz
Weight, kg	9.1

Cat. No.	Description	Price
448-230	OPSYS MW washer with 8-way wash heads and 2 wash lines	POA
448-231	OPSYS MW washer with 12-way wash heads and 2 wash lines	POA

Accessories

Cat. No.	Description	Price
448-232	Spare 8-way wash heads/manifold	POA
448-233	Spare 12-way wash head/manifold	POA

Other options and accessories are available, please enquire for details on 01342 826836.

Tecan, Columbus Strip Washer

The Columbus is a fully automated microplate strip washer, combining high flexibility with excellent performance and ease of use. With the optional liquid detection manifold, the barcode wand and a serial printer the Columbus provides full process control.

- 8-, 12-, or 16-channel manifold for 96-well microplates
- Up to four liquid channels, software selectable
- Crosswise aspiration, overflow washing, bottom washing
- Any liquid bottle can be used due to the non-pressurised dispensing and aspirating system
- Up to 30 methods can be stored for easy recall and operation
- Programming of the instrument can be done either with the built in keyboard/display or by WinWash via a PC

Options include, liquid sensor, barcode pen, Columbus PC software, serial printer.

Optional Fill Verification

The optional fill verification manifold enables checking of liquid delivery to every single well. This is conditional for positive process control.

Optional Control and Report

The Columbus can be integrated into a robotic system or automatic microplate processor. It can be controlled through RS232 or optional RS485. Fill verification, barcode identification and connected serial printer allows for complete documentation of microplate washing.

Specification

Washing speed	1 cycle, 300µl per well, 96 wells: less than 1 minute
Microplate formats	96-well (384-well optional)
Manifolds	8, 12 or 16-channel
Number of wash liquid channels	2 or 4 (depending on model ordered)
Washing programs	up to 30
Dispensing volumes	50-3000µl in 50µl increments for washing 50-400µl in 50µl increments for dispensing
Dispensing precision	CV <±4%
Residual volume per well	<2 µl
"Overflow" washing mode	Yes
Cell washing mode	Yes
Robotic compatibility	Yes
Specialities	4 different washing solutions in arbitrary reservoirs, according to GLP standards
Dimensions (wxdxh), mm	285x395x220
Weight, kg	8.2

Cat. No	Description	Price
700-240	Columbus strip washer with 8-way manifold and 2 wash lines	POA
700-280	Columbus strip washer with 12-way manifold and 2 wash lines	POA
700-281	Columbus strip washer with 16-way manifold and 2 wash lines	POA
700-282	Columbus strip washer with 8-way manifold and 4 wash lines	POA
700-283	Columbus strip washer with 12-way manifold and 4 wash lines	POA
700-284	Columbus strip washer with 16-way manifold and 4 wash lines	POA

Options

Cat. No	Description	Price
700-288	Manifold detection	POA
700-285	Cell wash manifold, 8 channel	POA
700-286	Cell wash manifold, 12 channel	POA
700-287	Cell wash manifold, 16 channel	POA
700-289	Serial printer	POA
700-290	Barcode pen	POA
700-291	'Drip-mode' cell wash	POA

Other options and accessories are available, including fill verification, liquid sensor, aerosol protection. Please enquire for details on 01342 826836.

A Columbus Pro model is also available. This model has IVDD compliance. Please contact our Technical Office for details on 01342 826836.

Jencons, Millennium hw·2 Hand-Held Microplate Washer

The Jencons Millennium hand-held microplate washer consists of a microplate workstation, reservoir kit, pump module and a choice of manifold with either 8 or 12 ports. The microplate workstation incorporates a manifold priming tray.

The aspirate and dispense tubes are made of PEEK® - a special, chemically inert material which will eliminate the possibility of delicate coatings being scratched from the well's surface. The special wash buffer dispense system, constructed without any tube pinching or deformation, is designed for long lasting, reliable and leak-proof operation.

A valve on top of the wash reservoir allows the adjustment of the dispense rate for optimal wash results. The powerful built in pump is equipped with silencer and humidity filter to guarantee quiet and long lasting reliable operation.

- Accurate dispensing and low residual volumes
- Adjustable dispense pressure with the turning of a screw valve
- Adjustable suction force option
- Filtered pump exhaust air
- Colour coding for easy maintenance and system modularity
- Fully autoclavable, metal-free fluid path
- Light and reliable valve system
- 12V-DC remote power supply catering for input voltage variants
- Optional allergen disc washing head (please enquire for details)

Specification

Wash and waste reservoir capacity, L	2
Weight of unit (with manifold), kg	4.8
Weight of pump module, kg	3.0
Dimensions, including a 2L reservoir (wxdxh), mm	250x300x250

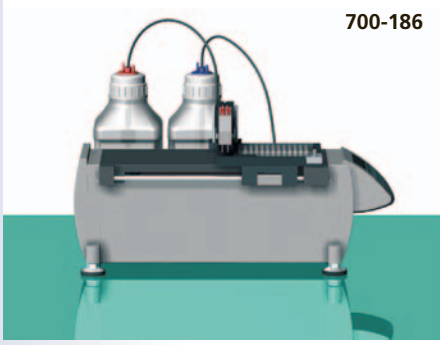
Cat. No.	Description	Price
700-083	Millennium hw·2, hand-held microplate washer with 8 port manifold	POA
700-084	Millennium hw·2, hand-held microplate washer with 12 port manifold	POA
700-087	8 port manifold and reservoir kit	POA
700-088	12 port manifold and reservoir kit	POA
700-089	8 port manifold	POA
700-090	12 port manifold	POA
700-091	Vacuum and pressure module	POA
700-093	Microplate workstation	POA

Jencons, Millennium 1000 Microplate Washer Filler

The Millennium 1000 is a unique processor for fully automated washing and filling of both 96- and 384-well microplates, in all possible profiles.

It is designed to achieve fast and reliable microplate processing with high precision and repeatability, whilst allowing the user a multitude of individual adjustment possibilities.

- Accurate dispensing precision and low residual volumes
- Optional aerosol protection cover
- Unique open construction for easy integration with robotic systems
- Plate sweep for the lowest residual volumes
- Up to 25 user-programmable wash protocols
- Liquid level sensing in wash and waste reservoirs with visual warning system
- Extremely easy to clean and maintain
- The Millennium 1000 accommodates all 96- and 384-well microplates
- RS232 port for robotic integration
- The Millennium 1000 can be configured (at the time of production) for filter bottomed and/or deepwell microplates
- Easy exchange of wash heads
- Heads available in 8, 12, 16, 24 and 48 concentric tip configurations
- Easy to read back illuminated full alphanumeric display
- Operates on 12V DC, supplied via an external switch mode power supply, thus enhancing operational safety
- Separate dispense and aspirate channels reduce the possibility of cross contamination
- Compact design

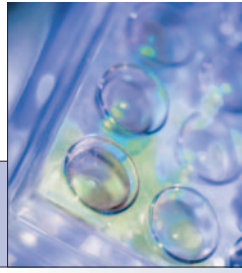


Specification

Operating voltage/Hz	100–240V/50-60Hz
Max current requirement, VA	52
Dispense reservoir	up to 3x2L
Waste reservoir, L	2
Residual volume	3µl per well typical action 1µl per well with sweep
Precision	CV ≤3%@300µl per well
Dispensing volume[1]	25–1000µl in 25µl increments
Speed, mins.	2.5[2]
Weight of complete system, kg	9.2
Dimensions - complete system (wxdxh), mm	350x650x350

1. *Other volume ranges are available. Please contact our Technical Office on 01342 826836.*
2. *To complete a 3 wash cycle using a 12 channel washer, double head, 350µl per well, 96 wells.*

Cat. No.	Description	Price
700-186	Millennium 1000 8-channel washer (96-well plates)	POA
700-187	Millennium 1000 12-channel washer (96-well plates)	POA
700-188	Millennium 1000 16-channel washer (96-well plates)	POA
700-189	Millennium 1000 24-channel washer (96-well plates)	POA
700-190	Millennium 1000 48-channel washer (384-well plates)	POA
700-191	Aerosol cover	POA



Jencons, Millennium 500 Microplate Filler

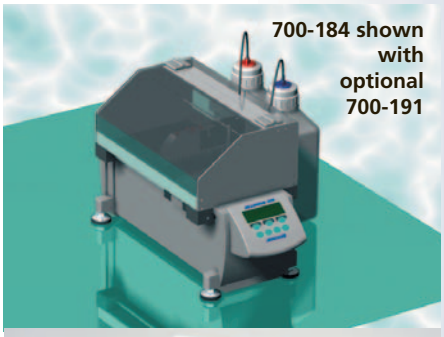
700-184

The Millennium 500 is a unique processor for filling 96- and 384-well microplates.

It is designed to provide fast and reliable microplate filling with high precision and repeatability, along with the flexibility to accommodate various customised requirements. Up to two different reagents can be filled simultaneously or sequentially with a user adjustable incubation period between the fill sessions.

The Millennium 500 is primarily designed to fill a 96-well or a 384-well microplate but can be configured (at the time of production) for deep-well microplates and tubes.

- Accurate dispensing using a precision peristaltic pump
- Unique open construction for easy integration with robotic systems
- Optional aerosol protection cover
- Up to 25 user-programmable protocols
- Optional liquid level sensing in reagent reservoirs with audible and visual warning system
- Extremely easy to clean and maintain; tubing replacement within seconds
- Quiet in operation
- RS232 port for robotic integration
- 8 & 16 individual channel head configuration
- Head and entire liquid path is easy to disassemble for cleaning & autoclaving
- Reagent recovery feature eliminates any wastage of reagents
- Works directly with any reagent reservoir supplied by the user
- Easy to read, back illuminated full alpha numeric display
- Operates on 12V DC, supplied via an external switch mode power supply, for enhanced operational safety
- Moving dispense head allows accurate filling from any height



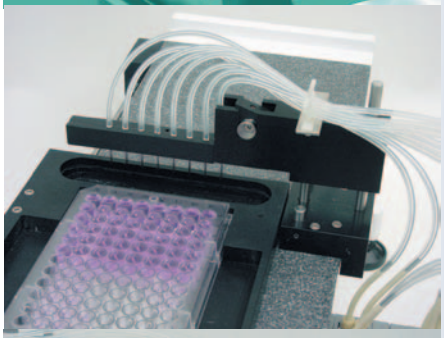
700-184 shown with optional 700-191

Specification

Operating voltage/Hz	100–240V/50–60HZ
Max current requirement, VA	52
Dispense reservoir	user specified
Precision	CV ≤3% @ 300µl per well
Dispensing volume‡	5-400µl in 2µl increments
Speed, sec.	18*
Dimensions complete system (wxdxh), mm	320x520x280
Weight of complete system, kg	6.0

* *To fill a 96-well plate using an 8-channel filler, 300µl per well.*

‡ *Other volume ranges are available, eg. a unit configured to fill volumes from 25-1,000µl in 25µl increments can be supplied, if specified at the time of ordering. Please contact our Technical Office for details on 01342 826836.*



Cat. No.	Description	Price
700-184	Millennium 500 8-channel microplate filler for 96-well plates	POA
700-197	Millennium 500 16-channel microplate filler for 96-well plates	POA
700-226	Millennium 500 16-channel microplate filler for 384-well plates	POA
700-191	Aerosol cover	POA
700-192	Optional liquid level sensing	POA

Q Fill 2 Microplate Filler

The Q Fill 2 has been designed to rapidly and accurately fill 96-well, 384-well and 2ml deep-well plates. For example, a 384-well plate can be conveniently filled in less than 20 seconds.

- Programmable dispensing volume from 50µl to 1ml by 1.0µl increments, precision <3% CV
- Space-saving compact design
- Self-locating stainless steel, interchangeable manifolds for easy alignment
- Autoclavable components for aseptic filling
- Various user-defined fill volumes
- Motorised plate table
- Small footprint, allowing use inside a laminar-flow cabinet

448-055

Specifications

Accuracy	±5%*
Fill volume range, µl	20–2000
Power supply	220–240V/50–60Hz
Dimensions (hxwxd), mm	200x300x300
Weight, kg	7

* *determined at 25°C using 8% glycerol at a volume of 50µl*

Cat. No.	Description	Price
448-055	Q Fill 2 microplate filler complete with 8-way and 16-way manifolds for standard 96- and 384-well plates respectively, 500ml reagent bottle and silicone tubing	POA
448-056	8-way manifold for deep 96 well plates	POA

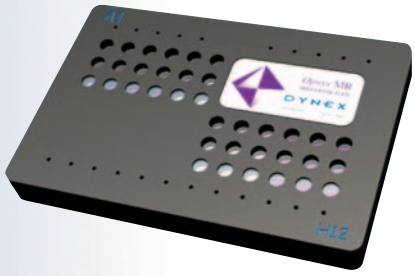
16-way manifolds and 1L reagent bottles are also available, please enquire for details on 01342 826836.

New

448-265

New

448-026



Dynex Technologies, OPSYS MR Microplate Reader

The OPSYS MR is a compact, economical microplate reader for endpoint analyses. It provides application flexibility and comprehensive data reduction options, yet is well within the budget requirements of most research, pharmaceutical, biotechnology or clinical laboratories. The OPSYS MR is available as a stand-alone unit or as a PC-controlled unit using Windows™ Revelation QuickLINK software.

- Suitable for 96-well microplates
- Choice of stand-alone or PC control
- Measurement time, less than 10 seconds for a 96-well microplate (single wavelength)
- Flexible on-board software
- Simple yet robust construction
- RS232 port for external control through QuickLINK software and data export
- On-board self diagnosis
- Small footprint
- 6 position filter wheel

The stand-alone OPSYS MR reader is supplied with absorbance filters: 405nm, 450nm, 490nm and 630nm, lamp, cables and operating manual. The PC-controlled OPSYS MR reader is supplied as above, but with QuickLINK software for PC control.

Specifications

Optical range	0 to 3.500 OD
Wavelength range	405 to 690nm
Dynamic range	0.0 to 3.000 OD
Measuring time	
Single wavelength	<10 seconds
Double wavelength	<20 seconds dual wavelength
Linearity	±1% up to 2.500 OD
	±1.5% over 2.500 OD
Precision	±0.005 OD below 0.500 OD
	<1%CV 0.600 OD to 2.000 OD
	<1.5%CV 2.100 OD to 3.000 OD
Accuracy	±0.01 OD or 2.5%
Interfaces	
Printer	Parallel Centronics
Serial	Bi-directional RS232C
Dimensions (wxdxh), mm	340x350x120
Electrical requirements	100-120V, 220-240V
Weight, kg	7.3

Cat. No.	Description	Price
448-265	OPSYS MR stand-alone, automatic microplate reader	POA
448-271	OPSYS MR automatic microplate reader for PC control supplied with Revelation QuickLINK software	POA
Accessories		
448-286	Revelation QuickLINK software for OPSYS MR stand-alone reader. Enables PC control	POA
448-287	Spare & additional filters for OPSYS MR (405nm to 690nm)*	POA
448-288	Spare lamp	POA

***** *Please specify which filter type you require when ordering.*
For other options and accessories, please enquire on 01342 826836.

OPSYS MR Verification Plate

The OPSYS MR verification plate is used to verify correct measurement performance of your OPSYS MR absorbance reader. The verification plate performs alignment, accuracy, linearity and precision tests at several wavelengths. The verification plate is supplied with absorbance calibration data traceable to NIST primary standards and NAMAS (through NPL)

- Neutral density filters and precision machines alignment holes to confirm performance to specifications
- Optical channel matching (comparing all optical channels for consistency)
- Linearity (measurement of deviation of the optical density versus concentration)
- Calibration (comparing readings with pre-determined factory values)
- GMP and GLP compliance

Cat. No.	Description	Price
448-026	OPSYS MR verification plate	POA

Dynex Technologies, MRX Microplate Readers

Model MRX_{11} features a standard floppy disc drive (FFD) and endpoint software, whilst the $MRX_{Revelation}$ is a faster and more powerful instrument possessing a hard disc drive and Revelation software. In addition, the $MRX_{Revelation}$ features a keyboard, monitor and mouse and temperature control option.

MRX_{11}

The MRX_{11} microplate reader combines excellent performance and data export capability, in a compact, economical package. The stand-alone MRX_{11} can save and recall up to 100 assays, 20 standard curves and 100 96-well plate data files from quantitative or qualitative analyses. This unit's standard output is an optional attached printer and the reader can be upgraded to run via a PC using Revelation software control. Data files from the MRX_{11} can be exported on a 3" diskette in an ASCII format that is easily read by Microsoft Excel™.

$MRX_{Revelation}$

The $MRX_{Revelation}$ microplate reader extends the MRX_{11} capability. The $MRX_{Revelation}$ unit incorporates PC architecture to conserve bench space. It also features:

- Keyboard, monitor, mouse and external CD-ROM drive allowing the user to work within a Windows™ environment using the Revelation software package without the need for a PC
- Endpoint, kinetic and tissue culture/agglutination software capability included with Revelation software
- Temperature control option

The MRX_{11} reader is supplied with absorbance filters: 405, 450, 490 and 630nm, endpoint software, floppy disc drive, lamp and operating manual.

The $MRX_{Revelation}$ reader is supplied with absorbance filters: 405, 450, 490, 530, 570 and 630nm, Revelation software, keyboard, mouse, monitor, external CD-ROM drive and operating manual.

Specifications

Light source	75W tungsten halogen lamp
Read cycle time	Single wavelength <4 seconds
	Double wavelength <6 seconds
Wavelength range 405 to 850nm	
Dynamic range	-0.100 to +4.000 OD
Linearity	0.000 to 2.000 OD ±1.0 %,
	2.001 to 3.500 OD ±1.5%
Precision	0.000 to 2.000 OD 0.2%CV or 0.005 OD whichever is greater
	2.001 to 3.000 OD 0.6CV
	3.001 to 3.500 OD 1.0%CV
Accuracy	0.000 to 3.500 OD ±2.5% or 0.005 OD whichever is greater
Linearity	±1% up to 2.500 OD
	±1.5% over 2.500 OD
Wavelength range 340 to 400nm	
Dynamic range	-0.100 to +3.000 OD
Linearity	0.000 to 2.500 OD ±2%
Precision	0.000 to 2.000 OD 0.6%CV or 0.005 OD whichever is greater
	2.001 to 2.500 OD 1%CV
Interfaces	
Printer	Parallel Centronics, compatible with 850 Printers
Serial	Bi-directional RS232C with user definable protocol
Temperature control option for $MRX_{Revelation}$ reader	
Range	Ambient to 63°C
Stability	<±0.5°C
Accuracy	±1.0°C
Dimensions (dxwxh), mm	390x360x220
Electrical requirements	100 to 120V or 220 to 240V 50/60Hz
Weight, kg	12.5*

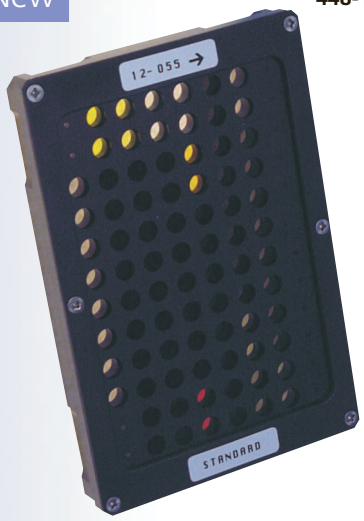
* *Not including external equipment (mouse, monitor, keyboard etc)*

Cat. No.	Description	Price
448-127	MRX_{11} microplate reader supplied with 4 filters, endpoint software, FDD, lamp and operating manual	POA
448-131	$MRX_{Revelation}$ microplate reader supplied with 6 filters, Revelation software, keyboard, mouse, monitor, external CD-ROM drive, lamp and operating manual	POA
448-132	$MRX_{Revelation}$ microplate reader with temperature control option supplied with 6 filters, Revelation software, keyboard, mouse, monitor, external CD-ROM drive, lamp and operating manual	POA

For accessories, see page 628.

New

448-142



Dynex Technologies, MRX Microplate Readers, continued…

Accessories

Cat. No.	Description	Price
448-135	Network LAN card for $MRX_{Revelation}$ reader	POA
448-199	$MRX_{Revelation}$ software for Windows™ (PC version) for both models	POA
448-137	Spare & additional filters (340nm to 850nm)*	POA
448-138	Spare lamp	POA
448-139	Spare UV lamp	POA

* *Please specify which filter type you require when ordering.*

For other options and accessories, please enquire on 01342 826836.

MRX Verification Plate

The MRX verification plate allows independent validation of your microplate reader. It was developed by Dynex to meet the needs of today's quality management and provides documentation to help meet regulatory requirements. The plate consists of NIST (NBS) traceable neutral density glass filters and a series of alignment holes. The software produces data on the following:

- Plate alignment
- Optical channel matching (comparing all optical channels for consistency)
- Linearity (measurement of deviation of the optical density versus concentration)
- Calibration (comparing readings with pre-determined factory values)
- Filter installation test
- Long term drift

Cat. No.	Description	Price
448-142	MRX verification test plate and software for visible range	POA

New

448-025

Spectra MR Scanning Microplate Reader

The Spectra MR scanning microplate spectrophotometer affords the most stable and accurate absorbance detection in a convenient compact instrument. Spectra MR accepts all microplate formats from 6 to 384-wells. Multiple photometric readings per well can be obtained at wavelengths from 200nm to 1,000nm in 1nm increments with the scanning monochromator.

The Spectra MR is simple to use (supplied with Revelation software) and offers flexibility, performance, precision and accuracy. A PC is required but not supplied.

The special Spectra MR verification plate containing NIST-traceable standards and IQ/OQ/PQ procedures are additional tools to ensure proper documentation and operation.

- Accurate absorbance measurements at high optical resolution of 2nm, important for discriminating the 260nm narrow peaks of DNA
- Temperature control between ambient +3°C and 45°C
- Zero drift and excellent baseline performance
- Quantitative endpoint and enzyme kinetics
- Data can be directly exported to Microsoft Excel™ or saved in text format
- Determination of concentrations of nucleic acids at A_{260}, A_{260}-A_{320} and A_{260}/A_{280}
- Path length correction function to compare Spectra MR data to data from any other spectrophotometer
- Scanning ability to establish absorbance spectrum and identify peak absorbance

Spectra MR applications

- UV/Visible absorbance & photometry
- Spectrum scanning
- Nucleic acid analysis (RNA concentration (A_{260}), ssDNA concentration (A_{260}), dsDNA concentration (A_{260}), DNA purity assessment (A_{260}/A_{280}))
- Enzyme kinetics (e.g. V_{max} and K_m)
- Cell proliferation
- Cytotoxicity
- Protein analysis (Biuret protein determination, Bradford protein determination, BCA protein determination, Endpoint calibration curve protein assays)
- Colorimetric assays (ELISA / EIA, Immunoassays, Kinetic ELISA / EIA, ß-galactosidase activity)
- NAD(P)H-based assays (Nitric oxide determination)

Dynex Technologies, Spectra MR Scanning Microplate Reader, continued…

The Spectra reader is supplied with Revelation software, cables and operating manual.

Specification

Light source	Xenon flash lamp
Wavelength range	200–1,000nm Tunable Monochromator
Wavelength bandwidth	2nm ±0.3nm
Wavelength accuracy	±1nm
Wavelength resolution	1nm
Photometric linearity	±2% from 0.0 A to 3.0 A
Photometric range	0.0 A to 4.0 A
Photometric resolution	±0.001 A
Photometric accuracy	±0.005 A or <1.0% from 0.0 to 2.0 A 2.0% from 2.0 A to 3.0 A
Photometric precision (96 well plate)	<0.005 A SD or <1% CV (whichever is greater) between 0.0 and 2.0 A; <2.0% CV between 2.0 and 3.0 A
Stray light	< 0.03% @ 230nm
Read time	96 wells < 20 seconds, typical (single wavelength) 384 wells <60 seconds, typical (single wavelength)
Scanning speed	>90nm /min
Temperature range	Ambient +3°C to 45°C
Temperature control accuracy	±1.0°C at 37°C (average of 96 wells) ±0.5°C well-well variation at 37°C
Shaking	Linear, 3 user selectable modes
Plate types	6, 12, 24, 48, 96, 384 well
Reading methods	Endpoint, kinetic, scanning
Interface	USB
Computer requirements	USB port, Windows® 2000 or XP with 500MHz 64MB RAM, 4 GB hard drive
Dimensions (dxwxh), mm	443x401x224
Electrical requirements	100-240V
Weight, kg	17.7

Cat. No.	Description	Price
448-025	Spectra MR microplate reader supplied with Revelation software, cables and operating manual	POA

Accessories

Cat. No.	Description	Price
448-023	Validation procedures (IQ,OQ,PQ)	POA

For other options and accessories, please enquire on 01342 826836.

Spectra Verification Plate

The Spectra MR verification plate features:

- Verification process is fully automated within Revelation software options to eliminate human error
- The process tests if the following meet specifications; Linearity (absorbance accuracy), Precision (reproducibility) and Wavelength accuracy in both visible and UV ranges
- Spectral response is verified to ensure the complete spectral range is being detected as well as stray light rejection
- NIST traceability is provided for each filter in the verification plate along with a protective storage case
- Re-calibration service for annual recalibration

Cat. No.	Description	Price
448-024	Spectra MR verification plate	POA

For information on UV microplates, please contact our Technical Office on 01342 826836.

New

448-144

Dynex Technologies, TRIAD Series Multimode Microplate Readers

The new innovative TRIAD and TRIAD LT multimode microplate readers are suitable for fluorescence, luminescence and absorbance based assays. They provide excellent value and flexibility for a variety of application needs.

The TRIAD and TRIAD LT include multimode detection Control software to enable simple instrument control, data transfer and assay protocol development. With an Outlook™ style and wizard-based interface, users can easily define protocols. Data can be automatically exported to Excel™, saved to file and printed.

The optional TRIAD Concert software is an analysis software package which extends data manipulation capability (curve fitting e.t.c.) and includes Control software. The TRIAD Signet software, also available as an accessory, includes all of the features of Concert software plus, 21 CFR Part 11 compliance.

TRIAD LT is designed for absorbance (VIS), fluorescence intensity (top read) and glow luminescence, and is supplied with excitation filters: 360nm and 485nm, emission filters: 465nm and 535nm, absorbance filters: 405nm, 450nm, 492nm and 620nm and multimode detection control software.

The TRIAD is designed for absorbance (UV/VIS), fluorescence intensity (top and bottom read), glow luminescence, fluorescence polarization (FP) and time resolved fluorescence (TRF), and is supplied with excitation filters: 535nm, 485nm, 485nm (FP) and 370nm (TRF), emission filters: 595nm, 535nm, 535nm (FP) and 625nm (TRF), absorbance filters: 260nm, 340nm, 405nm, 450nm, 595nm and 620nm and multimode detection control software.

Specifications

Model	TRIAD	TRIAD LT
Plate formats	6 to 384 well	96 to 384 well
Shaking	Linear, Orbital, Squared (3 speeds)	Linear, Orbital, Squared (3 speeds)
Temperature control, °C	Ambient +3 to 45	——
Dimensions (wxhxl), mm	390x240x580	390x240x580
Minimum computer system	Pentium® II 300MHz, 256MB RAM, 150MB free space, CD-ROM 4x, serial port, Windows NT® (SP 6a)/Windows® 2000/Windows® XP(both models)	
Fluorescence Intensity - Top Read		
Wavelength range, nm	230 Excitation, 750 Emission	340 Excitation, 650 Emission
Detection limit - 96 well black plate	1.5fmol fluorescein (1 sec integration)	10fmol fluorescein (1 sec integration)
Detection limit - 384 well black plate	1.5fmol fluorescein (400ms integration)	5fmol fluorescein (400ms integration)
Integration time/well, ms	10 to 10,000	10 to 10,000
Fluorescence Intensity - Bottom Read		
Wavelength range, nm	300 Excitation, 650 Emission	——
Detection Limit - 96 well black plate	50fmol fluorescein (1 sec integration)	——
Detection Limit - 384 well black plate	25fmol fluorescein (400 ms integration)	——
Integration time/well, ms	10 to 10,000	——
Time-Resolved Fluorescence		
Wavelength range, nm	340 Excitation, 750 Emission	——
Detection limit - 96 well white plate	50 amol Europium (1 sec integration)	——
Detection limit - 384 well white plate	30 amol Europium (400ms integration)	——
Fluorescence Polarization		
Wavelength range, nm	300 Excitation, 750 Emission	——
Detection limit - 96 well black plate	5mP at 10nM fluorescein (1 sec integration)	——
Detection limit - 384 well black plate	5mP at 10nM fluorescein (400 ms integration)	——
Integration time/well, ms	10 to 10,000	——
Luminescence (Glow)		
Wavelength range, nm	400 to 750	400 to 650
Detection limit - 96 well white plate	2fmol ATP	2fmol ATP
Integration time/well, ms	10 to 10,000	10 to 10,000
Read time for all of the above	18 sec/96 well	18 sec/96 well
Linear dynamic range for all of the above	5 decades	5 decades
Absorbance		
Wavelength range, nm	230 to 650	340 to 650
Resolution, mOD	0.1 from 0-3.5 OD	0.1 from 0-3.5 OD
Indication range, OD	0 to 3.5	0 to 3.5
Accuracy	<±1% and ±10mOD at 2.0OD (405nm)	<±1% and ±10mOD at 2.0OD (405nm)
Measurement modes	Single, dual, multiple wavelengths; scan; kinetic	Single, dual, multiple wavelengths; scan; kinetic

Cat. No.	Description	Price
448-144	TRIAD multimode microplate reader	POA
448-145	TRIAD LT multimode microplate reader	POA

Options

Cat. No.	Description	Price
448-146	Concert analysis software	POA
448-147	Signet analysis software	POA

Anthos, 2010 and 2020 Microplate Readers

700-254

700-253

The 2010 single-channel microplate reader is designed to be controlled via a PC. ADAP Basic software (supplied) is used to control the instrument and perform the desired measurement and evaluation. Suitable for routine laboratories, blood banks, research laboratories, PC-integrated systems and many others. Qualitative and quantitative functions for endpoint assays require ADAP Plus or ADAP Expert software.

The 2020 single-channel microplate reader has sophisticated on-board software and a large graphics colour display. Built on the technical basis of the 2010 it forms a convenient stand-alone system, offering powerful, yet easy-to-use features. The 2020 covers the wide range of colorimetric ELISA tests and other applications in diagnostics, research, environmental analysis and food testing.

Measurement modes

Single- and dual-wavelength reading, 30 seconds reading time per plate (60 seconds - dual wavelength), calibration prior to each measurement. Kinetic measurement, up to 100 reading cycles with a minimum interval time of 40 seconds. Fast measurement mode with data output in OD values on display and printer.

Flexible plate layout functions

Selectable blank validity, auto replicate mode and filling direction. Up to 4 controls and 12 standards can be positioned in the plate layout.

Evaluation possibilities

A range of quantitative and qualitative evaluation methods can be applied to measurement or relational values plus a number of kinetic data reduction options. Results can be viewed on the screen and outliers rejected prior to printout.

Data storage

2010 - In basic configuration 30 to 50 tests (flexible memory management) and 10 plates (measured results) may be stored for later evaluation. With an optional memory card, individual sets of tests and plate data can be stored and reloaded. Stored tests and results may be password protected.

2020 - 1.5 MB of onboard memory for tests and results with flexible memory management. Floppy drive (3.5") for saving and transmitting test files and evaluated data files and for easy updates of the on-board software.

Interfacing

2010 - Serial interface for remote control of basic measurement functions, instrument status and setup by external PC. Transmission of measured results, instrument status, etc.

2020 - Display: 25x42 characters colour graphics (640x480 pixels), keyboard with function keys, parallel printer interface for inkjet, laser and matrix printers and serial interface for remote control of all measurement functions. ADAP Basic supplied with the 2020 enables the transfer of tests and results between the reader and the PC as well as convenient update of the instrument software.

Both models are supplied with 4 filters (405, 450, 492, 620nm), dust cover, user manual, spare fuses, power and serial cables and ADAP Basic software.

Specifications

Photometric method	Single channel, well-centre-triggered reading with post-sample filtering, eliminating the influence of ambient light.
Light source	Controlled tungsten halogen lamp
Photodetector	Single silicon photodiode
Wavelength range, nm	400–750
Resolution, OD	0.001
Measurement range	0.000–3.300
Accuracy	2% OD @ 1 OD, 492nm
Linearity	≤±0.75% and ±0.005 OD from 0.1 OD to 2.5 OD
Reproductibility	≤±0.3% at 1 OD
Reading speed, per plate	Single wavelength: ~ 30 sec./ Dual wavelength: ~ 60sec.
Filters	Dielectrical interference filters. Filter-wheel can hold up to 8 filters. Four filters supplied as standard: 405, 450, 492, 620nm
Power supply	Consumption: 50 VA, 90–260 Volt, frequency range: 47–63Hz (autosensing)
Data connections	Serial interface: 9-pin / Parallel printer interface: 25-pin
Display and keyboard (2020)	25x42 characters colour graphics (640x480 pixel) Keyboard with numeric keypad, cursors and function keys
Printer, both models	Please contact our Technical Office on 01342 826836
Dimensions (wxhxl), mm	2010: 326x173x435/ 2020: 344x255x430
Weight, kg	2010: 6.6/2020: 10.0

Cat. No.	Description	Price
700-254	2010 Reader, measurement module for PC control with ADAP Basic PC software	POA
700-253	2020 Stand-alone reader with on-board software, floppy drive and ADAP Basic PC software	POA
Options		
700-271	ADAP Plus PC software (including ADAP Basic)	POA
700-269	ADAP Expert PC software (including ADAP Plus)	POA

For more information on optional software please see page 632 or contact our Technical Office on 01342 826836.

700-267

700-266

Anthos, Zenyth 340 Microplate Readers

The Anthos Zenyth 340 range are universal microplate readers for all kinds of colorimetric assays. The instruments have fast and flexible scanning optics, a wide measuring range and provide multiple measurement modes for mono- and bi-chromatic endpoint readings, kinetic and position scanning readings. They are compatible with plates from 6 to 384 wells. All models are supplied with ADAP Basic software.

The Zenyth 340 is available in four configurations:

Zenyth 340S
Stand-alone version with proven on-board software and flexible interfacing.

Zenyth 340ST
As Zenyth 3405 but with temperature control.

The two stand-alone models offer comprehensive evaluation function via a built in Windows® CE computer. Connections are available for a full keyboard, mouse, VGA and USB floppy drive. The instruments can be fully integrated in computer networks (LAN) for bi-directional data exchange or even connected to the internet.

Zenyth 340R
PC-controlled version, with serial interface.

Zenyth 340RT
As Zenyth 340R but with temperature control temperature control.

The PC-controlled versions are supplied with a data acquisition package (ADAP Basic software) which provides all functions for instrument control and data acquisition, plus data transfer to other data analysis packages.

Key features
- Wavelength range 340–750nm
- Fast measurement:
  10 sec. for 96-wells
  18 sec. for 384-wells
- Excellent optical specifications (0.1mOD resolution)
- Multiple plate formats: from 6- to 384-well plates
- Different measurement modes for a broad range of assays: single and dual wavelength for standard ELISA applications, kinetic mode for kinetic and enzyme activity studies, linear scan for agglutination and coagulation assays, XY-scan: 7x7 data points in 96-well; 32x32 data points in 6-well plates

Main applications
- ELISA
- Cell-based assays (apoptosis, cell proliferation, cytotoxicity)
- Reporter assays (beta galactosidase-based reporter studies)
- Colorimetric protein quantitation (Bradford, Lowry, BCA assays)
- NAD(P)H-based activity studies (enzyme kinetics)

Software packages
- ADAP Basic (standard software supplied with all Zenyth models) includes: administration, device control, data storage, kinetic data reduction, position scanning, shaking, data transfer, incubation (Zenyth 340ST, Zenyth 340RT only).

Also available:
- ADAP Plus includes:
  user log in, plate layout, controls, standards, replicates, formula/variables, qualitative and quantitative evaluation, standard curve, replicate elimination, validation
- ADAP Expert includes:
  (in addition to ADAP Plus)
  kinetic evaluation, 3-D scan display, intra-plate multi-assay, sample identification

Anthos, Zenyth 340 continued…

Specification

Photometric method	Single channel, transmission photometer
Light source	Controlled tungsten halogen lamp
Photodetector	Single silicon photodiode
Wavelength range, nm	340–750
Resolution, mOD	0.1
Absorbancy range, OD	0.000–4.00
Accuracy	<±1.5% at 1 OD
Linearity	<±0.5% and ±0.005 OD from 0.1 OD to 1.5 OD <±0.75% from 1.5 OD to 3.0 OD (400–750nm) <±0.7% and ±0.005 OD from 0.1 OD to 2.0 OD (340–399nm)
Repeatability	<±0.3% at 1 OD <±0.5% at 2 OD
Reading speed	96-well - 10sec. (single wavelength) 384-well - 18sec. (single wavelength)
Standard filters	405, 450, 620nm
Power supply	90–130 and 180–250V, (autosensing), frequency range: 47–63Hz
Shaking speeds	3
Temperature control	From 4°C above ambient up to 45°C in 1°C steps (340ST and 340RT only)
Operating system	Windows CE 3.0 (340S and ST)
Data connections	All models: Serial interface: 9-pin, baudrate 9600/19200/38400 baud 340S and 340ST only : Parallel printer interface: 25-pin, with PCL support (HP), USBx2, LAN/Ethernet, VGA, keyboard, mouse
Standard software	ADAP Basic
Printer	Contact our Technical Office on 01342 826836
Dimensions (wxhxl), mm	468x251x408
Weight, kg	15

All Zenyth models are supplied with ADAP Basic software, power cable, serial cable, 3 standard filters (405, 450, 620nm), dust cover, user manual, spare fuses . Models 340S and 340ST are also supplied with an adaptor for keyboard/mouse.

Cat. No.	Description	Price
700-267	Zenyth 340S stand-alone reader with on-board software and ADAP Basic PC software	POA
700-265	Zenyth 340ST stand-alone reader with on-board software, ADAP Basic PC software and temperature control	POA
700-266	Zenyth 340R reader for PC control with ADAP Basic PC software	POA
700-268	Zenyth 340RT reader for PC control with ADAP Basic PC software and temperature control	POA

Options

Cat. No.	Description	Price
700-271	ADAP Plus PC software (includes ADAP Basic)	POA
700-269	ADAP Expert PC software (includes ADAP Plus)	POA

Touchscreen

Anthos, Zenyth 200 Monochromator Microplate Reader

Zenyth 200

The Zenyth 200 offers cuvette and microplate scanning spectrophotometry in one instrument for measurements in the low UV range as well as the visible range. A high precision monochromator separates light of the desired wavelength into either wells of microplates or cuvettes. The microplate chamber can be temperature controlled up to 45°C. Endpoint, multichromatic, kinetic, spectral scanning and X-Y position scanning modes offer complete assay flexibility.

Pre-programmed assays include:

- ssDNA, dsDNA and RNA concentration (A260)
- DNA purity check (A260/A280)
- Oligo short/long concentration and melting point

There are two Zenyth 200 models:

200RT, a PC controlled version with temperature control and 200ST, a stand-alone version with onboard software and temperature control.

For full details on the Zenyth 200, please contact our Technical Office on 01342 826836.

Tecan, Sunrise Microplate Reader

With an innovative range of options, this versatile microplate absorbance reader provides all of the features needed for numerous applications which are required in diagnostic and research laboratories with high throughput.

As standard, the reader is controlled using a PC and is supplied with Excel™-based XFluor software™. XFluor provides instrument control and data acquisition. For more advanced data reduction and report generation, Magellan software is available as an optional extra. Through a touchscreen option, the Sunrise can operate without a PC, allowing computer-independent data processing and saving space.

Options such as a touchscreen combined with a Windows® CE based on-board software, tuneable wavelength filter, temperature control and a bar-code reader can be added to the basic Sunrise instrument (please specify at time of ordering).

Applications: absorbance measurements in microplate-based assays, ELISA, agglutination assays, kinetic assays.

- Microprocessor-controlled microplate reader for absorbance measurement of 96-well microplates
- Multiple options: touchscreen with Windows® CE based on-board software, wavelength selection or scanning in 1nm steps via a tuneable wavelength filter, precise temperature control up to 42°C, flexible bar-code reader, quality validation plate, Magellan data-analysis software for operation from a PC
- 12 measurement channels, 1 reference channel (reads 12 channels at a time)
- Fast measurement time, 6 seconds for a 96-well microplate (single wavelength)
- Measurement with high precision and high resolution
- Can be integrated into robotic systems
- Compact and space-saving design
- 3 year warranty

The Sunrise reader is supplied with XFluor software for PC control (compatible with Excel 200 or Excel XP), absorbance filters: 405, 450, 492 and 620nm and operating manual.

Specification

Optical system	12 measuring channels and 1 reference channel
Wavelength range	
Standard model	340 to 750nm, Fixed filter slide with 4 fixed filters
Measuring range	340 to 399nm: 0 to 3.0 OD
	400 to 750nm: 0 to 4.0 OD
Measuring time including check program and plate transport	
Single wavelength	6 seconds
Double wavelength	8 seconds
Kinetics measurements	Every 5 seconds
Accuracy	
Standard filter slide	0.0 to 2.0 OD/492nm: better than ±1.0% and ±0.010 OD
	2.0 to 3.0 OD/492nm: better than ±1.5% and ±0.010 OD
Linearity	
Standard filter slide	340 to 399nm: 0.0 to 2.0 OD better than ±2.0%
	400 to 750nm: 0.0 to 2.0 OD better than ±1.0%
	2.0 to 3.0 OD better than ±1.5%
Precision	
Standard filter slide	0.0 to 2.0 OD/492 nm: better than ±0.5% and ±0.005 OD
	2.0 to 3.0 OD/492 nm: better than ±1.0% and ±0.005 OD
Resolution	0.001 OD
Linear shaker function	Linear in 4 selectable velocities
Interfaces	Serial interface (RS232C, 300–38.400 Baud), parallel Centronics interface for printer (only active in combination with touchscreen option)
Power supply	Autosensing, 100–120/220–240V, ±10% 50/60Hz
Dimensions (wxdxh), mm	335x320x170
Weight, kg	6 (6.8 with touchscreen)
Bar-code reader	Optional
Roboter integration	Optional
Specialities	Touchscreen, modular design

Cat. No.	Description	Price	Cat. No.	Description	Price
448-350	Sunrise microplate reader	POA	448-367	Bar-code reader	POA
Options			448-368	Tuneable wavelength filter*	POA
448-366	Touchscreen for on-board reader control	POA	448-369	Magellan software (2 user licence)**	POA
448-351	Temperature control	POA			

** When fitted, this replaces the standard filter slide. **5 user licences are also available.*
For extra filters and other options and accessories, please enquire on 01342 826836.

Jencons, Optica Microplate Reader

448-048

New

The Optica microplate reader is an 8 channel photometer for 96-well microplates. It can be operated using either the onboard software via the 17 key membrane and back lit LCD or through a PC (software required, but not supplied). Results can be printed utilising a dot-matrix printer connected directly to the Optica or to any printer that is connected to the PC.

The Optica software lets you run up to 10 different assays per session with plates containing up to 12 standards and 12 controls. Assays can be configured and saved onto the hard disc ready for future use. The software also enables the processing of a qualitative or a quantitative assay with qualitative interpretation which is visualised in a graph. Individual data cards can be generated for each patient and all test results can be saved or printed out.

- Two optical filters built in as standard
- Optional addition of two more filters
- Full onboard control or control via PC (accessory software required)
- Accommodates all 96-well plate types
- 8 independent channels
- Quiet and reliable
- Minimal footprint

Specification

Reading principle	8 channel mono or biochromatic reading
Light source	8 independent tungsten bulbs
Detectors	8 silicon photodiodes
Measuring range	450nm to 630nm with filters supplied 405nm to 750nm with optional filters
Measuring times	16 seconds – full plate monochromatic 32 seconds – full plate biochromatic
Accuracy	±1% from 0.000 to 1.500 OD ±2% from 1.500 to 3.000 OD
Result curves	Direct plotting point to point, linear regression and 4 parameter (log-logit)
Result calculation modes	OD, direct or calculated cut-off, single calibrator, programmable curves from 2 to 12 point
Plate shaking	Timed linear shaking
Interfaces	User interface: 2x20 character LCD and 17 key membrane switch panel Printer interface: Printer port for a dot-matrix printer PC interface: RS232 to PC using Windows™ 98/XP/ NT/2K
Power supply	110/230V AC, 50-60Hz
Dimensions (wxdxh), mm	200x577x240
Weight, kg	8.2

448-048

New

Cat. No.	Description	Price
448-048	Optica microplate reader with two filters (450-630nm)	POA
448-049	PC software supplied with RS232 cable. Suitable for PC using Windows™ 98/XP/NT/2K	POA

Please specify power supply when ordering, so that your reader is supplied with the correct mains lead. For details on other filters and spare filters please contact our Technical Office on 01342 826836.

New **448-153**

Dynex Technologies, MLX Microplate Luminometers

The MLX range of luminometers marks a breakthrough in microplate luminometry, combining revolutionary hardware and powerful software. With its modular subassembly and PC components, the MLX delivers state-of-the-art performance, precision, sensitivity, flexibility and reliability.

- Eight decades dynamic range – permits detection of high and low intensity reactions
- Automatic gain change – permits detection of varying intensity on the same plate
- Specially selected PMT – offers excellent linearity
- Low cross-talk – less than 2.5 parts in 100,000 results in high signal-to-noise values, also offering low background values, thus increasing sensitivity
- Fast reading intervals – 10 milliseconds is the fastest available
- Highly reproducible – precision of better than 2%
- Advanced data reduction software – Revelation Intuitive software offers the ability to measure glow, flash and kinetic glow reactions. Analysis of QC, threshold, ratio and quantitative analyses-choosing from 12 different curve fits
- Flexible configuration – with up to 3 dispensers, the system can perform multi-reagent flash reactions
- Temperature control included as standard
- CE marked

The MLX luminometer systems are supplied with keyboard, monitor, mouse, Revelation software and cables.

Specifications

Reading time	<30sec./plate 96-well format
Detection limits	Better than 10 fmol alkaline phosphatase or 1 attamol of recombinant aequorin and 5 zeptomol of firefly luciferase
Operating modes	Glow endpoint, glow kinetic, flash, dual-flash
Dynamic range	0.0008 to 10,000 RLU
Linearity	R > 0.999 from 0.001CV to 9900 RLU
Precision	Better than 1% from 0.3 to 9900 RLU
Cross-talk	< 2.5 x 10-5 from 0.0001 to 999.99 RLU
Temperature control	Ambient +3°C to 45°C, uniformity ±1°C
Shaking	Orbital with 3 speeds
Detector	Photomultiplier tube
Dispensers	15 to 250µl, 5µl increments (500µl syringes)
Dimensions (wxdxh), mm	500x450x250
Weight, kg	23

Cat. No.	Description	Price
448-152	MLX Microplate luminometer system supplied with keyboard, monitor, mouse, Revelation software and cables	POA
448-153	MLX Microplate luminometer system supplied with keyboard, monitor, mouse, 1 dispenser, Revelation software and cables	POA
448-154	MLX Microplate luminometer system supplied with keyboard, monitor, mouse, 2 dispensers, Revelation software and cables	POA
448-155	MLX Microplate luminometer system supplied with keyboard, monitor, mouse, 3 dispensers, Revelation software and cables	POA

For options and accessories, please contact our Technical Office on 01342 826836.

MLX Reference Plate

The luminometer reference plate is designed for monitoring the precision and accuracy of the relative light unit (RLU) measurement for most microplate luminometers. It consists of a precision- controlled light source, which is filtered to produce a narrow bandwidth of light, thus ensuring reproducibility. The plate is powered by two 1.5v AAA alkaline batteries.

Cat. No.	Description	Price
448-156	MLX luminometer reference plate	POA

Anthos, Lucy 2 and Lucy 3 Luminometers

Anthos Lucy 2 and Lucy 3 are combined luminometers and photometers for 96-well microplates. The photon counting measurement system sets new landmarks for the sensitivity and the dynamic range of microplate assays. Lucy 2 is designed for use with a PC and is suitable for all tasks in research and routine applications.

Lucy 3 is a stand-alone model with on-board software. It combines highly sensitive luminescence measurements with the easy operation and functionality of a conventional ELISA Reader. The compact, economical analyser with two dispensers offers unrivalled flexibility when performing flash and glow luminescent measurements. With its comprehensive evaluation software it is universally suited for luminometric ELISA, colorimetric ELISA, and all other luminescence applications.

Lucy 3 is easily operated using the combined function key and pull down menu structure of the software. The measurement process can be monitored on a large colour graphics display. 5.5 MB memory is available for test and result storage.

Dispensers

Triggering reagents or internal quantitation standards may be injected into two well positions next to the detector. The high precision dispensers are software controlled for delivery of volumes in steps of 50µl. The tubing is metal free and easily exchanged

Photometer

Both models provide full photometric function using an additional light source and a filter wheel below the detector.

Measurement modes

Measurement and dispensing steps are combined to define all relevant measurement modes for single point and kinetic applications in luminescence and photometry. Without dispensing and at 0.1 seconds integration time per well, a complete plate is measured in less than 60 seconds. The integration time may be set in the range of 1/100 to 10 seconds in steps of 1/1000 of a second.

The following measurement modes are available when programming a test.

SPF (mono- and bi-chromatic single point photometric measurements), SPL (single point luminometric measurements with predispensing), DSPL (double single point luminometric measurements - best suited for dual luciferase assays), TSPL (timed single point luminometric measurements: dispense plate first and then read keeping intervals), FKL (fast kinetic luminometric measurement).

For quick measurements (without the need of pre-programming a test), SPF, SPL and FKL are available. In addition, Lucy 3 processing steps like shaking and incubating may be combined with the measurement modes.

Software and interfaces

Lucy 2 - All instrument functions (including the optional lid opener for robotic applications) must be remotely controlled from a PC and measured data will be subsequently transmitted to the computer for evaluation. Windows® based ADAP software allows flexible configuration and performance of the required measurement protocols .

Lucy 2 has an RS232 serial connection for PC control.

Lucy 3 - The sophisticated on-board software allows qualitative, quantitative and semi-quantitative evaluation as well as kinetic data reduction (peak value or timing, integral, average slope, maximum slope), replicate elimination, transformation calculation and control and test validation. Measurement modes and evaluation methods can be used in any conceivable combination.

Measurement and evaluation parameters are stored together with results, so re-evaluation is possible even if the original test protocol has been discarded.

Lucy 3 - Display: 25x42 characters colour graphics (640x480 pixels), keyboard with function keys, parallel printer interface for inkjet, laser and matrix printers, serial interface for remote control of all measurement functions.

700-262

700-263

700-262

700-263

Anthos, Lucy 2 and Lucy 3 Luminometers, continued…

Applications

Lucy 2 and Lucy 3 are suited for all applications of bio- and chemiluminescence using microplates, including:

- Firefly luciferase (ATP-measurements, biomass determination)
- Bacterial luciferase (reporter gene detection, toxicity assays)
- Enhanced luminol (cellular luminescence, water testing)
- Phagocyte chemiluminescence
- Chemiluminescent enzyme substrates (immuno assays, DNA assays)

Lucy 2 is supplied with 2 dispensers, serial connection cable, ADAP Basic control and evaluation software, 4 photometric filters (405, 450, 492, 620mm), 1 luminometric highpass filter (570mm), dust cover, user manual and spare fuses.

Lucy 3 is supplied with 2 dispensers, serial connection cable, ADAP Basic control and evaluation software, 4 photometric filters (405, 450, 492, 620mm), 1 luminometric highpass filter (570mm), dust cover, user manual and spare fuses.

Specification

Detection system	Photon counting PMT
Spectral sensitivity range, nm	300–650
Sensitivity at 545nm	Typically 0.2fW, 50 amol ATP
Dynamic range, RLU	0.001 to 99.999 (kcounts/sec)
Filters	Filter wheel for up to 15 luminescence- and photometric filters.
Sample formats	Opaque and transparent microplates, filter bottom microplates or other sample arrays of similar dimension.
Dispensers	2 supplied. Can be supplied without dispensers on request Standard volume/stroke: 50µl, metal free, exchangeable tubing
Photometer	
Spectral range, nm	405–650
Capacity	15 filters (4 supplied)
Measurement range, OD	0–4.499
Resolution, OD	0.001
Accuracy	≤±1.5% at 1 OD
Linearity	Less than or equal to ±1% and ±0.005OD at 1OD
Data Interfaces	Serial RS232 Parallel printer interface – 25-pin (Lucy 3)
Display and keyboard (Lucy 3)	25x42 characters colour graphics (640x480 pixels) Keyboard with numeric keypad, cursors and function keys
Printer (Lucy3)	Contact our Technical Office on 01342 826836
Dimensions (wxhxl), mm	Lucy 2: 330x173x465 Lucy 3: 354x255x466
Weight, kg	10.6 (Lucy 2)/ 11.8 (Lucy 3)

Cat No.	Description	Price
700-262	Lucy 2 luminometer for PC control with ADAP Basic control and evaluation software	POA
700-263	Lucy 3 stand-alone luminometer with on-board software and ADAP Basic software for PC	POA

Options

Cat No.	Description	Price
700-271	ADAP Plus software (includes ADAP Basic)	POA
700-269	ADAP Expert software (includes ADAP Plus)	POA

For more information on optional software please see page 632 or contact our Technical Office on 01342 826836.

FLUOstar OPTIMA & POLARstar OPTIMA
The Flexible Solution for Your Laboratory

The Multifunctional plate reader with an easily upgradeable modular design.
Choose from up to four read modes.

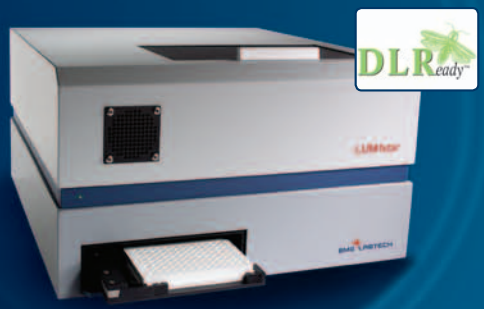
- Fluorescence Intensity
- Time-Resolved Fluorescence
- Absorbance UV /Vis
- Luminescence (Flash and Glow) assays
- 6-384 well plates user definable
- Accommodates up to 2 on board injectors for kinetic or flash assays
- Plate shaking, incubation, top/bottom reading and well scanning
- Gas Vent available to regulate the atmosphere for cell based or bacterial assays
- 60°C temperature control option available
- Upgradeable to a POLARstar OPTIMA

POLARstar OPTIMA - Benefit from all the functionality of the FLUOstar OPTIMA with the added features of:

- Fluorescence Polarization
- Simultaneous Dual Emission detection, Optimised for FRET and BRET

LUMIstar - The Dedicated Luminescence Microplate Reader

The flexibility and performance of the LUMIstar allows more applications to be adapted to luminescence than ever before.



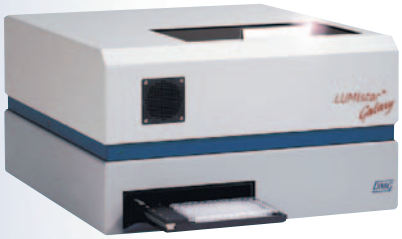
- Top and bottom reading
- Highest sensitivity
- Up to 3 Reagent Injectors
- Injection, shaking and reading at the same time
- Individual injection volume for each well in all formats up to 384
- Flexible injection time and delay parameters for all kinetic scenarios
- Optional incubation up to 60°C

Applications –
Providing solutions from the basic to more complex reactions

- DNA, RNA and Protein Quantification + Genotyping
- ELISAs, Immunological assays
- Reporter Gene Assays, Cell based assays
- FRET and BRET for protein-protein interactions
- Ca^{2+}, ion channel detection
- Flexible injection time and delay parameters for all kinetic scenarios
- Enzyme Kinetics

For more details of these products from BMG LABTECH please contact the Jencons-PLS Technical Office on 01342 826 836

701-025



BMG, LUMIstar Galaxy, Microplate Luminescence Reader

The LUMIstar Galaxy is a fully automated microplate-based luminescence reader, designed for the widest possible range of luminescence applications. Flash kinetics as fast as 100ms, and glow kinetics of up to 12h are possible with the user-friendly Windows™ software. The XY microplate transport system moves in increments as small as 0.1mm, which allows analysis of a wide range of plate formats.

- 'Digital Photon Integration' (DPI) technology
- Glow and Flash kinetics
- Built-in syringe pumps access measurement position
- Independent injection volumes for each well
- Reads up to 384 well plates
- Precise temperature control and flexible shaking
- 8 decades dynamic range
- Sensitivity 0.2amol/well recombinant aequorin
- Temperature regulated PMT

Specification

Measuring system	Side window, photon counting, bialkali photomultiplier tube. Spectral range from 290nm to 700nm. Dynamic range of 8 decades. Software-selectable Gain 1:4000 in 150 steps	Shaking	Linear and orbital. Shake times from 0 to 100 sec. in 1 sec. steps
		Temperature control	Incubation range from ambient +5°C to 45°C in 1°C steps (60°C optional)
Liquid system	Three high-precision syringe pumps. Two injectors simultaneously access the measurement position. Injection volumes software-selectable from 5µl to 350µl in 1µl steps	Temperature stability, °C	±0.2
		Temperature gradient, °C	<0.5
		Sensitivity	$5x10^{-19}$ mole/well recombinant Aequorin
		Crosstalk	$<3x10^{-5}$
		Computer interface	RS232, 9600baud
		Dimensions (wxhxl), mm	440x270x480

Cat. No.	Description	Price
701-025	LUMIstar Galaxy computer-controlled luminescence reader side window PMT (250-750µm range), integral reagent compartment. Plate formats 1536, 384, 96, 48, 24 and Terasaki orbital and linear shaking. Windows™ based control software and Microsoft Excel™ worksheet macro included	POA
701-023	Temperature control >45°C (25°C to 60°C)	POA
701-024	Reagent injection	POA

701-020

BMG, FLUOstar Optima, Microplate Reader

The FLUOstar Optima is a fully-automated microplate reader that incorporates four different measurement principals: standard fluorescence, time-resolved fluorescence, absorbance (OD) and high performance luminescence (2,000,000 cps). The unit can be configured with on-board reagent dispensers and an incubation chamber. It covers the wavelength range from 240nm to 740nm and reads a 384 well plate within 28 seconds.

- Built-in syringe pumps access measurement position
- Programmable multiple fluorophore analysis
- Instant top and bottom switching
- Reads up to 1536 well plates (fluorescence only)
- Sensitivity 0.9fmol/well fluorescein
- 15 second reading time (96-well plate)

Specification

Standard fluorescence	Spectral range (excitation and emission) 240nm to 740nm. Dynamic range 8 decades. Sensitivity 0.9fmol/well fluorescein	Light source	High-energy Xenon flash lamp
		Shaking	Linear and orbital shaking
		Reagent dispensers	Two built-in syringe pumps access measurement position. Variable injection speed. Individual injection volumes for each well. Reagent backflushing
Time-resolved Fluorescence	Spectral range (excitation and emission) 240nm to 740nm. Dynamic range 7 decades. Sensitivity 50amol/well europium		
Absorbance	Spectral range 240nm to 740nm. Dynamic range 0.000 to 3.000 OD. Reproducibility 0.010 OD for 0–2 OD range, 0.030 OD for 2–3 OD range	Incubation	Incubation range from ambient +5°C to 45°C in 0.1°C steps
		Temperature stability, °C	±0.2
Luminescence	0.5fmol/well ATP	Temperature gradient, °C	<0.5
Detector	Side window, current type photomultiplier tube	Microplate formats	Up to 1536, data recognition up to 384
Filters	Filter wheels for 8 excitation and 8 emission filter positions	Computer interface	RS232, 9600baud, binary communication protocol
Gain control	Software-selectable Gain 1:65535 in 4095 steps. Automatic Gain calculation	Dimensions (hxwxd), mm	270x480x440

Cat. No.	Description	Price
701-020	FLUOstar Optima computer-controlled fluorescence and absorbance reader. Extended PMTs (240 to 740nm range), 2 filter wheels with 8 excitation and 8 emission filter positions. Supplied with 4 excitation and 4 emission filters,* Windows™ based control software and Microsoft Excel™ worksheet macro included	POA

** Excitation filters: 320nm, 355nm, 390nm, 485nm, 515nm, 544nm, 584nm and time-resolved (310nm to 370nm). Emission filters: 405nm, 460nm, 538nm, 555nm, 590nm, 612nm, and time-resolved. Please specify when ordering.*

BMG, POLARstar Optima, Microplate Fluorescence Polarisation Reader

701-021

The POLARstar Optima is a fully automated microplate reader that incorporates five different measurement principals: standard fluorescence, time-resolved fluorescence, fluorescence polarisation, absorbance (OD) and high performance luminescence (2,000,000 cps). The unit can be configured with on-board reagent dispensers and an incubation chamber. The wavelength range for standard and TR fluorescence is 240nm to 740nm (extended wavelength to 900nm is available, please enquire for details).

- Simultaneous dual emission detection system
- Instant top and bottom optics switching
- Built-in syringe pumps access measurement position
- Programmable multiple fluorophore analysis
- Precise temperature control and flexible shaking
- Reads up to 384 well plates (1536 standard fluorescence and TR fluorescence)
- Sensitivity 500fmol/well fluorescein (polarisation mode), 0.9fmol/well fluorescein (intensity mode)

Specification

Standard fluorescence	Spectral range (excitation and emission) 240nm to 740nm. Dynamic range 8 decades. Sensitivity 0.9fmol/well fluorescein	Shaking	Linear and orbital shaking Programmable shake time and width
		Reagent dispensers	Two built-in syringe pumps access measurement position. Variable injection speed. Individual injection volumes for each well. Reagent backflushing
Time-resolved fluorescence	Spectral range (excitation and emission) 240nm to 740nm. Dynamic range 7 decades. Sensitivity 50amol/well europium	Incubation	Incubation range from ambient +5°C to 45°C in 0.1°C steps
Fluorescence polarisation	Spectral range (excitation and emission) 350nm to 740nm. Dynamic range 5 decades. Sensitivity 500fmol/well fluorescein	Temperature stability, °C	±0.2
		Temperature gradient, °C	<0.5
		Microplate formats	Up to 384, Standard and TR fluorescence up to 1536
Absorbance	Spectral range 340nm to 740nm. Dynamic range 0.000 to 3.000 OD. Reproducability 0.010 OD for 0–2 OD range, 0.030 OD for 2–3 OD range	Reading time	Dependent on test definition. Shortest reading time 14 seconds for 96 well plate, 28 seconds for 384 well plate
		Computer interface	RS232, 9600baud, binary communication protocol
Luminescence	0.5 fmol/well ATP		
Light source	High-energy Xenon flash lamp	Power requirements	100/115/230V, 50/60Hz, maximum 200VA
Detector	Side window, current type photomultiplier tube	Dimensions (wxdxh), mm	440x480x270
		Weight, kg	28
Filters	Filter wheels for 8 excitation and 8 emission filter positions		
Gain control	Software-selectable Gain 1:65535 in 4095 steps. Automatic Gain calculation		

Cat. No.	Description	Price
701-021	POLARstar Optima computer-controlled fluorescence polarisation reader 2x extended wavelength PMTs (240nm to 740nm range) 2 filter wheels with 8 excitation and 8 emission filter positions Supplied with 4 excitation and 4 emission filters* High energy xenon flash lamp. Windows® based control software and Microsoft Excel™ worksheet macro included	POA
701-024	Reagent injection	POA

* *Excitation filters: 320nm, 355nm, 390nm, 485nm, 515nm, 544nm, 584nm and time-resolved (310nm to 370nm)*
Emission filters: 405nm, 460nm, 538nm, 555nm, 590nm, 612nm, and time-resolved, please specify when ordering

448-364

448-370

448-354

Tecan, Genios FL Fluorometer, Genios and Genios Plus Multi-label Readers

There are three Genios readers available, the Genios and Genios Plus are multi-function readers, while the Genios FL is a dedicated microplate fluorometer.

Genios FL

Competitively priced fluorescence-only instrument suitable for fluorescence assays in the VIS-nIR range.

- High energy flash lamp for numerous applications
- Optional temperature control (ambient +5°C to 42°C)
- Ideal for fluorescence-based ELISA

Filters included:
Fluorescence Excitation 360nm and 485nm
Fluorescence Emission 465nm and 535nm

Genios

The Genios is the optimal multi-detection system for a variety of molecular biology applications, including DNA quantification, cell based assays, fluorescence-based ELISAs, kinetic studies and expression studies (GFP).

- Fluorescence intensity - top and bottom reading
- Time-delayed fluorescence
- Absorbance
- Luminescence (glow type)
- Temperature control
- PCR tubes and cuvette compatibility
- Plate formats from 6 to 384 wells (1536 Genios Plus)
- Connect stacker system (optional)
- QC plate for absorbance

Filters included:
Fluorescence Excitation 360nm and 485nm
Fluorescence Emission 465nm and 535nm
Absorbance 260nm, 280nm, 340nm, 595nm

Genios Plus

The Genios Plus includes all the benefits of the Genios and further enables:

- Higher sensitivity through high quality quartz fibres
- Optimised performance for cell based assays
- UV range fluorescence measurement (customized filter set)

Filters included:
Fluorescence Excitation 360nm, 430nm, 485nm and 590nm
Fluorescence Emission 465nm, 535nm, 595nm, 635nm
Absorbance 405nm, 450nm, 492nm, 620nm

All Genios readers are supplied with XFluor software for instrument control and data acquisition (compatible with Excel™ 2000 or Excel™ XP). Magellan software is available as an optional extra for more advanced data reduction and report generation.

Tecan, Genios FL Fluorometer, Genios and Genios Plus Multi-label Readers, continued…

Specifications

Model	Genios FL	Genios	Genios Plus
Measuring speed	<30 seconds (96-well plate), (all models)		
Temperature control	Optional	Ambient +5 to 42°C	Ambient +5 to 42°C
Plate shaking	Linear or orbital in 3 different speeds, (all models)		
Fluorescence			
Measurement mode	Top	Top and bottom	Top and bottom
Wavelength range, nm	340–700	340–700	230–700
Sensitivity (fluorescein/well/black plate)	<3pg	<3pg	<1.5pg
Time resolved measurements	20–2000µsec	20–2000µsec	20–2000µsec
Plate formats	up to 384-well plates	up to 384-well plates	up to 1536-well plates
Absorbance			
Wavelength range, nm	N/A	230—1000	230—1000
Accuracy	N/A	<±0.010 OD	<±0.010 OD
Plate formats	N/A	up to 384-well plates	up to 384-well plates
Glow type luminescence			
Wavelength range, nm	N/A	400—700	400—700
Sensitivity	N/A	$0.4x10^{-6}$ activity units alkaline phosphatase (Genios & Genios Plus models)	
Plate formats	N/A	96-well plate	96-well plate
Additional information			
Interface	Serial via RS232	Serial via RS232	Serial via RS232
Robot compatible	Yes	Yes	Yes
Power supply	Autosensing	Autosensing	Autosensing
Dimension (wxdxh), mm	380x415x170	380x415x170	380x415x170
Weight, kg	18.8	18.8	18.8

Cat. No.	Description	Price
448-370	Genios FL microplate fluorescence reader	POA
448-371	Genios FL microplate fluorescence reader with temperature control	POA
448-354	Genios multi-detection microplate reader	POA
448-364	Genios Plus multi-detection microplate reader	POA

Options

Cat. No.	Description	Price
448-369	Magellan software (2 user license*)	POA

***** *5 user licences are also available.*

For extra filters and other options and accessories, please enquire on 01342 826836.

Magellan Software

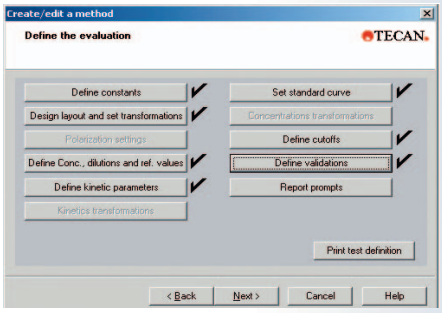
Instrument control and data reduction software supporting the complete line of Tecan microplate readers. Magellan supports all detection modes including fluorescence intensity, fluorescence polarisation, time-resolved fluorescence, glow luminescence and absorbance, as well as all plate formats up to 1536 wells.

Wizard guides provide step-by-step guidance for even complex assays and calculation modes. Comprehensive data reduction for kinetic, screening, curve fitting and a broad range of other applications are provided. All major curve fitting methods are included and an enhanced kinetic evaluation package enables individual curve comparisons. Automated data export in variable formats and customisable report forms help to meet any specific requirements for data storage.

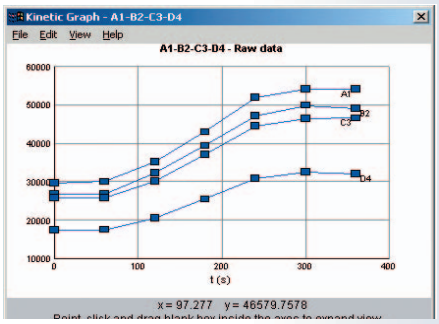
System requirements: Windows 2000 or higher, minimum processor P4 or equivalent, 64MB RAM memory, video resolution 800x600.

Electronic Signatures

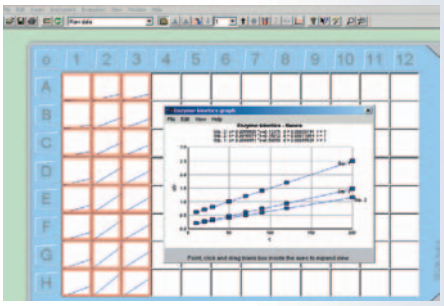
Customers woking in an FDA regulated laboratory have a further option via Magellan, permitting data management in a manner compliant with CFR21 part II. For further information and pricing, please call 01342 826836.



Wizard guide



Kinetic curve comparison



Kinetic evaluation according to the Hanes equation

384-well evaluation

Screening evaluation

Berthold, Twinkle™ LB 970 Microplate Fluorometer

The Twinkle™ LB 970 is a dedicated fluorometer for microtitre plates. Clear and opaque standard configuration 6-, 12-, 24-, 48-, 96-, 384- and 864-well microtitre plates are compatible. Terasaki plates and Petri dishes are compatible with optional adaptors.

Three plate mixing modes are available: linear, orbital and double orbital (speed and amplitude is adjustable). Counting modes: Top fluorescence (340–650nm), bottom fluorescence, scanning and fast or slow kinetics.

Scanning of wells (several measuring points within a well) plus top and bottom reading are available for all plate types. Measurement time per well is software selectable between 0.1–600 seconds. Temperature control (optional) can be set from, ambient +5°C to 42°C, controlled to within 1°C.

The LB 970 comes complete with Windows® based software.

Specification

Excitation	Tungsten halogen lamp (340-700nm), 75W, lifetime >50h (typically >300h)
Detector	Photomultiplier tube, digital photon counting, high cathode sensitivity, low noise photo cathode.
Excitation filter slide	5 filter positions: Factory installed standard high quality interference filters, 355 (30)nm and 485 (15)nm
Emission filter slide	4 filter positions: Factory installed high quality interference filters, 460 (30)nm and 535 (30)nm filters.
Counting performance	Fluorescein detection limit <10 fmol/well
Dimensions (hxwxd), mm	280x465x406
Weight, kg	17

Cat. No.	Description	Price
448-400	LB 970 Twinkle™ Fluorometer, top reading	POA
448-401	LB 970 Twinkle™ Fluorometer, top and bottom reading and temperature control	POA

For information on special adaptors for Terasaki pla0tes and Petri dishes and other accessories, please contact our Technical Office on 01342 826836.

448-402

Berthold, LB 96V MicroLumat *Plus* Luminometer

Universal microplate luminometer with highest sensitivity in the wavelength range of 380 - 630 nm for all common bio- and chemiluminescence applications in 96- or 384-well plates. The instrument can be used as a stand-alone instrument or operated with an external PC, using the WinGlow Windows® based measuring and evaluation software (supplied) for complex programs and kinetics measurements (including cellular luminescence).

For stand-alone operation the instrument can be controlled from the built-in keyboard and user friendly on-board software. Measured results can be transferred to an external computer and/or printer.

- Instrument versions available for manual injection or with 1, 2 or 3 automatic injectors of variable volumes (25–300µl). "Jet injection" ensures optimum reagent mixing
- Temperature control (optional) can be set from ambient +5°C to 42°C in 0.1°C steps

The LB 96V MicroLumat *Plus* is supplied with interface for printer control (RS232C) and bi-directional RS232C computer interface, printer cable, 5 white microplates (LB 96 V-WMP) and WinGlow PC software.

Please note that a serial printer is needed to run the LB 96V as a stand-alone unit.

A PC system is required to control the MicroLumat and to evaluate results using external software.

Specification

Sensitivity	Better than 20 attomole ATP
Injector accuracy/volume, µl	±3/25–300
Crosstalk	$<3x10^{-5}$ spillover from adjacent well
Dynamic range	More than 6 orders of magnitude
Injector precision	<0.5% (at 300µl<0.1%)
Ambient temperature, °C	15 to 30 recommended
Dimensions (wxdxh), mm	600x502x290
Weight, kg	approx. 30 (net)

Cat. No.	Description	Price
448-183	LB 96V-0 MicroLumat Plus luminometer, manual model (no injectors)	POA
448-184	LB 96V-1 MicroLumat Plus luminometer, 1 injector	POA
448-185	LB 96V-2 MicroLumat Plus luminometer, 2 injectors	POA
448-402	LB 96V-3 MicroLumat Plus luminometer, 3 injectors	POA
448-186	LB 96VH-0 MicroLumat Plus luminometer, manual model, temperature control	POA
448-403	LB 96VH-1 MicroLumat Plus luminometer, 1 injector, temperature control	POA
448-404	LB 96VH-2 MicroLumat Plus luminometer, 2 injectors, temperature control	POA
448-405	LB 96VH-3 MicroLumat Plus luminometer, 3 injectors, temperature control	POA

Inca Personal Microplate Incubator

The Inca is a personal microplate incubator that provides reliable, accurate and long-life operation. It has a small footprint of just 120mmx180mm.

- Variable temperature control
- Temperature or elapsed time display
- Built-in timer with buzzer
- Minimum evaporative loses with uncovered plates
- Accommodates all plate types
- Easy microplate location
- No maintenance required
- Low voltage for added safety
- Ideal for field applications

Whether you are a laboratory technician or a diagnostic kit manufacturer, the Inca is the natural choice for single microplate incubation. The unique design and advanced electronic temperature control guarantees stable and accurate performance combined with quiet operation.

Specification

Temperature range, °C	amb. +5 to 45
Accuracy, °C	>±0.5 of set temperature
Timer, mins	0 to 999
Time setting resolution, mins	1
Temperature/timer display	3 digit LCD
Dimensions (wxdxh), mm/Weight, g	120x180x100/920
Heater power, W	15
Operating voltage	100-230Vac 50/60Hz
Power consumption, Amps	1.25
Power supply	12V 2A DC, centre +
Environmental operating temp, °C	10 to 40
Environmental storage temp, °C	4 to 40
Fuse rating	1.25A T

Cat. No.	Description	Price
583-154	Inca Microplate Incubator	POA

583-154 New

583-154 New

Orbis Compact and Orbis Plus Microplate Shakers

The Orbis shaker is a compact choice of microplate shaker for any test environment. With a footprint, marginally larger than that of the microplate it shakes, the Orbis offers the most economical and advanced solution for your shaking applications, as well as being competitively priced. The counter-balanced orbital movement guarantees a stable, quiet and long life operation. The Orbis shaker can be operated as a stand alone unit or alternatively, be easily integrated into a robotic system, with a remote on/off control.

- All styles of microplate accommodated
- Momentary shaking action
- No maintenance required
- Brushless DC motor for quiet and reliable long life operation
- Variable speed control
- Timer function (Orbis Plus only)
- Low voltage supply for added safety
- Ideal for field applications
- Washable, anti-slip mat

Both Orbis shakers can operate as microtube shakers when used with an accessory tube platform. This 131x90mm platform accommodates 40 tubes with diameters 10.5 to 12.7mm.

Specifications

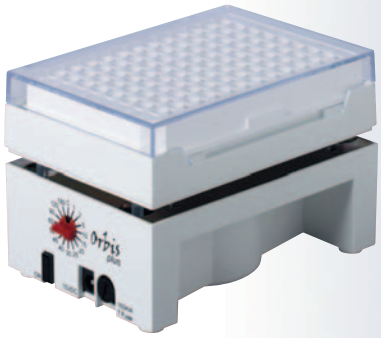
Model	Orbis	Orbis Plus
Shaking orbit	1mm radius	1mm radius
Capacity	1x96 well microplate	1x96 well microplate
Shaking speed range, rpm	950 to 1300	950 to 1300
Timer function (Orbis Plus only)	———	1 to 180 mins and continuous
Dimensions (wxdxh), mm	93x133x72*	93x133x72*
Electrical	230V 50/60Hz/110V 50Hz (both models)**	
Power consumption	65mA	65mA
Power supply	15V 100mA DC	15V 100mA DC
Environmental operating temperature, °C	+10 to 40	+10 to 40
Environmental storage temperature, °C	+4 to 40	+4 to 40
Weight, g	715	715

** Height with lid 87mm* ****** *Please specify power supply when ordering*

Cat. No.	Description	Price
700-235	Orbis microplate shaker	POA
700-236	Clear lid for Orbis shaker	POA
700-237	Orbis Plus microplate shaker with timer, supplied with clear lid	POA
700-241	Platform for Orbis microplate shaker, holds 5x8 microtubes	POA

700-235 shown with accessory microtube shaker platform 700-241

700-237



New

583-210

Grant-bio, PHMP Microplate Thermoshaker

The PHMP microplate thermoshaker is for use with all types of standard depth 96- and 384-well plate. Enhanced by a heated lid, the PHMP provides the optimum heating environment for your samples, combined with powerful orbital shaking to produce the maximum yield from your incubations. Comprising three instruments in one, the PHMP is highly versatile in application:

- Microplate thermoshaker
- Compact benchtop incubator without shaking
- Microplate shaker without temperature control, for operation in a coldroom

Good temperature transfer to samples within the wells of microplates is inherently difficult to achieve, as the point of contact between the microplate well and a flat heating plate is very small. Our solution lies in the heated lid, with considerable advantages resulting from bi-directional heating:

- Excellent temperature stability
- Excellent temperature uniformity across the plates for optimum consistency of results, independent of room temperature
- Condensation is prevented, which is crucial when handling micro-volume samples, particularly at high temperatures

The Grant-bio PHMP microplate thermoshaker is compact, with a low profile and small footprint. It is also extremely quiet. The powerful motor produces regulated and reproducible rotation throughout the speed range and, combined with the sturdy construction, will guarantee years of consistent operation. The PHMP is extremely easy to operate, with very simple set-up of temperature, speed and time, using the two line set-up and status display.

New

583-210

Applications

Suitable for applications in many fields, including:

- Molecular biology – for bacterial cultivation and DNA analysis
- Cytochemistry – for *in-situ* reactions
- Biochemistry – for enzyme and protein analysis
- Molecular chemistry – for matrix analysis
- Immunochemistry
- Molecular diagnostics
- ELISAs

Features:

- Variable speed: 300 to 1200 rpm
- 2mm shaking orbit for effective mixing
- Soft start
- Temperature range: ambient + 5 to 60°C
- Timed operation: 1 minute to 96 hours with buzzer and automatic switch-off
- Accommodates 2 standard depth 96- or 384-well plates
- Low voltage power supply enables safe cold room operation
- Operating ambient temperature range 4°C to 45°C, for use in a cold room or incubator
- Meets the requirements of IEC61010 parts 1 and 2
- CE marked
- Two year warranty

Specification

Temperature range, °C	amb +5 to 60
Stability, °C	±0.1
Uniformity, °C	±0.2
Shaking speed, rpm	300 to 1200
Speed setting resolution, rpm	10
Orbit mm	2
Timer	1 min to 96 hrs
Time setting resolution, mins	1
Heat-up time, RT to 37°C, mins	15 to 20
Overall dimensions (wxdxh) mm	265x250x125
Ambient temperature range, °C	4 to 45
Input voltage, V	12
Input type	dc
Input current, A	5

Cat No	Description	Price
583-210	PHMP Microplate Thermoshaker	POA

Grant-bio, PMS-1000 Microplate Shaker

583-208 New

The Grant-bio PMS-1000 microplate shaker provides reliable, regulated shaking for two or four microplates. With a speed range of 300 to 1000 rpm, the PMS-1000 can be adjusted to suit the application - gentle shaking to ensure that the well contents are not ejected, or more vigorous agitation for effective aeration across the small surface area of each of the wells. Speed setting is simple, using a graduated dial. Operation may be continuous or timed, with the integral electronic timer ensuring an accurate count-down for repeatability of time-sensitive incubations. Timer setting is straightforward and the LED status display clearly indicates time remaining.

Designed to meet the challenge of workspace restrictions, the Grant-bio microplate shaker is compact, with a low profile and small footprint, for personal application. It is also extremely quiet. Simple screw attachments allow quick and easy fitting of any standard depth 96- or 384-well plates, holding the plates securely in place. The PMS-1000 is robust and reliable, designed for long-term operation.

583-208 shown with 583-209 New

Applications

Suitable for mixing, incubation and cultivation of biological and chemical components in many fields, including microbiology, cell and molecular biology, pharmacology, immunology, medicine, biotechnology. Specific applications include:

- Immunoassays
- HTS applications
- Colouration tests
- Binding of template DNA to silica-coated magnetic beads

Features:

- Variable speed: 300 to 1000rpm
- Orbit: 2mm
- Integral timer, 1 min to 24 hours, with automatic switch-off
- Standard platform for two microplates, optional accessory platform for four microplates
- Low voltage power supply enables safe cold room operation
- Operating ambient temperature range 4°C to 45°C, for use in a cold room or incubator
- Low energy consumption
- Meets the requirements of IEC61010 parts 1 and 2
- CE marked
- Two year warranty

Specification

Speed, rpm	300 to 1000
Orbit, mm	2
Timer	1 min to 24 hrs
Time setting resolution, sec	10
Ambient temperature range, °C	4 to 45
Footprint wxd, mm	175x185
Overall height, mm	90
Capacity	2 microplates as standard 4 microplates with optional platform
Input voltage, V	12
Input type	dc
Input current, A	1.2

Cat No	Description	Price
583-208	PMS-1000 Microplate shaker	POA

Accessories

Cat No	Description	Price
583-209	Platform to accommodate 4 microtitre plates; allows shadow-free positioning of all four plates; screw fittings for ease and speed of plate installation, to retain the plates securely in position	POA

New **582-107**

AQS500 Microplate Shakers/Mixers

The AQS500 microplate mixer is a fixed speed (1500rpm), small orbit, 2 or 4 plate mixer for every day use. Its 1.5mm orbit allows 300µl of liquid per well and ensures even and consistent mixing.

Specification

Speed, rpm	1500
Orbit, mm	1.5
Overall dimensions (wxdxh), mm	210x160x120
Carrying capacity, kg	6.5
Electrical requirements	220-240V, 50Hz

Cat. No.	Description	Price
582-107	AQS500 Microplate shaker/mixer for 2 plates, fixed speed	POA
582-108	AQS500B Microplate shaker/mixer for 4 plates, fixed speed	POA

An analogue timer can be fitted. Please contact our Technical Office on 01342 826836 for details.

New **582-109**

Microplate Incubator Shakers

This 2 plate incubator shaker offers the ultimate in environmental control for micro-plate assays. The IS89/2 provides accurate control over all parameters. The temperature range of ambient to 54°C is controlled within ± 1°C with 0.2°C across the plate. The shaker speed is variable between 10–1300rpm.

Specification

Speed range, rpm	10–1300
Temperature range, °C	ambient to 54
Temperature control, °C	±1
Temperature control across plate, °C	±0.2
Overall dimensions (wxdxh), mm	316x430x203 (lid down)
Carrying capacity	2 plates
Electrical requirements, V/Hz	220-240V, 50Hz

Cat. No.	Description	Price
582-109	IS89/2 Incubator shaker for 2 microplates	POA
582-110	IS89/2 Incubator shaker for 2 microplates with analogue timer	POA

New **583-155**

Stuart, SSM5 Mini Microplate Shaker

Designed for use with microtitre plates and microcentrifuge tubes. The aluminium tray is fitted with a specially designed mat that securely holds in place up to four microtitre plates. High speed combined with a tiny orbit creates the vibrational shaking action required for mixing the very small volumes contained in the wells or in microcentrifuge tubes.

Speed is variable from 250 to 1250 rpm and is easily set via the digital display. Shaking times can be set from 1–999 minutes on the built in digital timer. The unit can also be set for continuous operation.

Tube holders are available as optional accessories. They fit securely onto the platform turning the unit into an effective tube mixer.

Specification

Shaking action	Orbital
Speed range, rpm	250 to 1250
Orbit, mm	1.5
Display	Digital
Timer, mins	1–999
Capacity	4 plates
Maximum load, kg	1
Platform size (wxl), mm	220x220
External dimensions (wxdxh), mm	240x300x160
Electrical supply	230V, 50Hz, 50W
Weight, kg	5

New **583-155 shown with 583-156 and 583-013**

Cat. No.	Description	Price
583-155	SSM5 Mini orbital shaker, with anti-slip mat	POA
583-156	SSM5/1 Tube holder for 50x 1.5ml tubes*	POA
583-157	SSM5/2 Tube holder for 50x 0.5ml tubes*	POA
583-013	SSM5/3 Tube holder for 50x 0.2ml tubes*	POA

** SSM5 Mini shaker can take any 2 of the accessory tube holders at any one time.*

Model SSM1 is also suitable for microplates. See page 916 for details.

Order by phone➤ 01342 826836 Order on-line➤ www.ecomcat.co.uk
Order by fax➤ 01342 826771 Website➤ www.jencons.co.uk

Jencons, Millennium 2000 Microplate Shaker Incubator

700-182

The Millennium 2000 is a unique microprocessor controlled shaker incubator that accommodates up to four microtitre plates in either 96-well or 384-well format. Three parameters, speed, temperature and time, are programmed via the control panel.

Countdown of remaining time as well as the other two parameters are displayed on the LCD. The plates remain visible to the user at all times under the clear protection cover. For added safety and peace of mind the Millennium 2000 is the only microplate incubator shaker to work from a low voltage supply.

- Easy access to all four plates at all times for loading & unloading
- Uniform heating via air circulation
- Unique open construction for easy integration with robotic systems
- Remote low voltage supply for safe working
- Automatically adjusts to all voltage supplies from 100V to 240V, 50/60Hz
- Minimum bench space required
- Easy to clean and maintain
- Upgradeable for deep well plates
- Optimal temperature uniformity of plates

Specification

Operating voltage/Hz	100–240V/50–60Hz
Remote power supply	24V/5.4A
Max current requirement, W	130
Heater power, W	100
Adjustable temperature range , °C	5 above ambient to +45 in 1°C increments
Temperature uniformity, °C	±1 (between plates)
Readout precision, °C	±1
Operational conditions, °C	12 to 30
Adjustable timer, minutes	1–999 in 1 minute steps
Shaking orbit, mm	1.5 inclusive
Adjustable speed, rpm	500 to 1300 in 10rpm steps
Weight (complete system), kg	4.2
Dimensions (complete system) (wxdxh), mm	200x520x220
Cat. No.	700-182
Price	POA

286-284

286-285 shown with 286-308 incubator 1000 with low hood (see page 921)

582-100

Heidolph Titramax Microplate Shakers

The Titramax range of moulded platform shakers are designed to accept snap fit of 4 to 6 microplates measuring 85x128 mm. The 100 and 1000 models produce circular vibrations with a steplessly variable frequency between 150 and 1350rpm, with an amplitude of 1.5 mm. The 101 model provides circular vibrations with an orbit of 3.0mm. Both models have a three year warranty. The Titramax 1000 shaker can be used with the Incubator 1000 with low hood for stable temperature control. For details and ordering of the Incubator 1000 see page 921.

Specifications

Model	Titramax 100	Titramax 101	Titramax 1000
Type of motion	Circular/vibrating	Circular/vibrating	Circular/vibrating
Shaking frequency, rpm	150 to 1350	150 to 1350	150 to 1350
Speed setting	Electronic	Electronic	Electronic
Orbit, mm	1.5	3.0	1.5
RPM display	Scale	Scale	Scale
Timer	0–120 min or continuous for all		
Unit weight, kg	5.5	5.5	6.5
Dimensions (wxdxh), mm	245x310x125	245x310x125	320x125x375
Standard version shaking platform	Pickup plate for 4 microtitre plates	Pickup plate for 4 microplates	Pickup plate for 6 microtitre plates
Cat. No.	286-284	286-780	286-285
Price	POA	POA	POA

Jencons, Microplate Incubator Shakers

This range of microplate incubator shakers includes the IS89 Standard microplate incubator shaker accommodating 6x96 well standard microplates or 6 standard culture flasks and the IS89HT High Top model accommodating 6x96 deep well microplates. All these models are available with an optional timer (variable from 2–58 mins).

They have a normal working temperature range from ambient +5°C to 54°C with a sensitive thermostatic control maintaining the pre-set temperature to within ±1°C. A large horizontal fan provides total, continuous air movement, heating to equilibrium in a very short time and with a maximum variation of only ±0.2°C.

A micro switch which is activated immediately on opening the lid switches off the heating and shaking systems. This allows easy access and ensures that the pre-determined temperature and agitation re-commences at the original settings.

Specifications

Housing/ lid	Grey stove enamelled aluminium/ smoked perspex
Capacity	6x96 well microplates or 6 standard culture flasks (582-100, -104) IS89HT 6x96 deep well microplates (582-101, -102)
Time setting	Variable from 2 to 58 minutes (models with timer only)
Speed	0 to 1300rpm, orbit 3mm radius
Temperature range, °C	Ambient +5 to +54
Thermostatic control, °C	Better than ±1
Heaters, W	1 to 250
Temperature tolerance, °C	±0.2 across plate
Temperature change, °C	+20 in 1 minute
Dimensions (wxdxh), mm	460x500x160 (582-100, -104) 460x500x250 (582-101, -102)

Cat. No.	Description	Price
582-100	IS89 Microplate incubator shaker	POA
582-104	IS89T Microplate incubator shaker with timer	POA
582-101	IS89HT High Top microplate incubator shaker	POA
582-102	IS89HT/T High Top microplate incubator shaker with timer	POA

IKA®, MTS 2/4 digital Orbital Microplate Shaker

583-149

The MTS 2/4 is a specially developed shaker for shaking two or four microtitre plates. The speed and the stroke are optimally adapted for shaking microtitre plates. The electronic control keeps the set speed constant via rated/actual speed comparison. A digital timer allows a time selection of 1–99 min. The MTS 2/4 digital is especially suited for medical diagnostics.

Specification

Shaking motion	Horizontal, circular
Orbit diameter, mm	3.0
Speed range, rpm	0–1100
Speed display	Scale
Timer	∞/1–99 min
Timer display	Digital
Permissible ON time	100 %
Maximum shaking load	2/4 microtitre plates
Motor rating input/output, W	19/5
Dimensions (wxdxh), mm	185x320x105
Weight, kg	2.7

Cat. No.	Description	Price
583-149	MTS2/4 digital orbital microplate shaker	POA

Stuart, SI19 Microplate Incubator

397-010 New

Specially designed for use with microtitre plates, which can be difficult to incubate. In conventional incubators, when 4 or more plates are placed on a shelf, they block the air circulation, which can seriously impair temperature distribution.

The SI19 incubator overcomes this problem with forced air circulation, which blows preheated air across the shelves rather than through them. Microtitre plates are also prone to drying out during incubation. The SI19 remedies this with a water tray to increase the humidity within the chamber.

The bright LED display indicates temperature and the encoder control allows rapid and accurate temperature setting. An over-temperature protection system automatically tracks the set temperature and controls the heater in the event of a fault. Error codes are displayed if a fault has occurred or if the set temperature has been interrupted.

An acrylic upwards opening door provides excellent access to the interior. The stainless steel chamber features 4 shelves each accommodating 6 plates (or 12 stacked in 2 layers). Shelves are captive and slide out for easy loading.

- Compact unit
- Ideal for microtitre plates and Petri dishes
- Laminar flow air circulation
- Digital setting and display of temperature
- Convenient upward opening door
- Stainless steel interior

397-010 New

Specification

Nominal capacity, litres	20
Temperature	
Range, °C	Ambient +8 to 60
Fluctuation (at 37°C), °C	±0.5
Variation, °C	±0.5
Display type	LED
Display resolution	1°C
Dimensions (wxdxh), mm	
Internal	250x230x200
External	380x380x435
Weight, kg	24
Electrical supply	230V, 50Hz, 280W

Cat. No.	Description	Price
397-010	SI19 microplate incubator	POA

New **357-101**

Clifton, BH-M Series, Thermuplate Block Heater

This stylish and robust stainless steel unit is specially suited for skirted or unskirted 96-well format microplates, strips or micro tubes. This unit consists of a low profile, durable, corrosion resistant, stainless steel case with chemically resistant wipe clean control panel. The sloping control panel features touch buttons to enter temperature and time values. Indicators show heating, alarm, time and set point modes in use.

- Clearly visible LED display (time or temperature display, digital PID control, menu driven data entry)
- Time and temperature settings retained after power off
- Control options: temperature control only, temperature and time, process – two temperature set points
- 3 year warranty

Specification

Temperature		Heater, W	250
Display resolution, °C	0.1	Heating well dims.	140x50x72
Range, °C	amb+5 to +100	(wxdxh), mm	
Sensitivity, °C[1]	±0.1	Capacity, options	12x thin wall strips 8x0.2ml micro tubes 'v' well, 1x96 'v' well, microplate 0.2ml – skirted full or mini, 1x96 'v' well, microplate 0.2ml – unskirted, 96x thin wall 0.2ml micro tubes 'v' well
Uniformity well to well, °C[1]	±0.1		
Over temperature alarm	+4°C, with heater cut off, indication		
Timer			
Display resolution, mins	1		
Settings, mins.	variable 0–999		
Time cycle	activated @ set point 2	Overall dims. (wxdxh), mm	200x295x95
Cycle end	audible buzzer and "end" message	Voltage, V	230[2]

Cat. No.	Description	Price
357-101	BH-1M Thermuplate block heater	POA

1. @ 60°C. *2. 120V available please enquire for details on 01342 826836.*

New **448-068**

Thermobond®, Heat Sealer

The Thermobond heat sealer is designed to seal polypropylene and polystyrene tubes, microtitre plates, deepwell plates and strips with a specially prepared film or foil, to prevent sample evaporation or leakage during storage and transportation.

Heat is applied to the surface of the film creating a fine melt of the coating to the surface of a tube or microplate being sealed. The process is adhesive free and no heat is transferred to the sample. A variety of interchangeable, metal blocks and spacer plates are available to cover virtually every application.

- Prevents sample loss, evaporation and eliminates risk of cross contamination
- Rugged construction to ensure sample holders remain perfectly flat for even, consistent sealing
- PTFE coated heater plate allows easy removal of any surface build-up

Specification

Temperature of heating plate	175°C	Heater type	Cartridge
Temperature stability	±5°C	Dimensions (wxdxh), mm	220x370x130
Temperature sensor	Thermostat	Power	230V, 50Hz
Over temperature cut-out	180°C	Weight, kg	5
Warm-up time (from ambient)	Within 15mins		

Cat. No.	Description	Price
448-068	Thermobond heat sealer supplied with 2 spacers, 1 locator to accommodate deepwell microtitre plates, mains lead and instructions	POA

Optional mounting blocks

Cat. No.	Description	Price
448-248	Thin wall 96-well PCR plates. Accepts plates of all well shapes and sizes	POA
448-069	96x0.2ml tube block for single, 8 and 12 strip tubes (without caps)	POA
448-070	Flat block for rigid & semi-rigid microplates, (24-, 48-, 96-, 192-, 384-well plates)	POA

Sealing films and foils

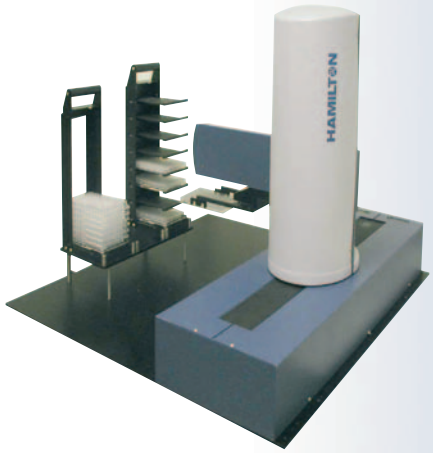
Cat. No.	Description	Pack	Price
448-071	Clear film for polypropylene[1]	25	POA
448-072	Plastic coated metal foil for polypropylene[2]	25	POA
448-073	Plastic coated metal foil for polystyrene[2]	25	POA

1. Temperature range -80°C to +95°C *2. Temperature range -80°C to +110°C*

Hamilton, Microlab® SWAP Microplate Handling Robot

448-000 New

The Microlab® SWAP is designed for precise and reliable transportation of different types of microtitre plates, both in landscape and portrait format. If you need to automate assay screening, look no further. The Microlab® SWAP offers a wide range of applications for your high throughput screening and secondary screening. The flexibility allows easy integration of pipetting robots, as well as plate readers, washers and storage equipment from a variety of manufacturers. The instrument is available in two lengths - 420mm and 1400mm.



- High-speed plate handling with increased efficiency
- Flexible and easy to integrate
- Four degrees of freedom
- Two different track sizes available
- No plate loss during or after a power failure
- Low noise stepper motor technology
- Automated plate detection
- Easy-to-use Windows-based software
- Re-gripping in portrait and landscape
- Easy to "teach" with SWAP teaching box

Specifications

Model	SWAP 420	SWAP 1400
Dimensions (hxwxd), mm	622x233x750	622x233x1730
Weight, kg	22	33
Electrical requirements	<0.8-2 A, 100-250V, 50-60Hz (both models)	
Working range		
X-Axis, mm	420	1400
Y-Axis, mm	310 (both models)	
Z-Axis, mm	235 (both models)	
Rotation, °	270 (both models)	
Payload, kg	0.5 (both models)	
Resolution		
X-Axis, mm/Step	0.1 (both models)	
Y-Axis, mm/Step	0.1 (both models)	
Z-Axis, mm/Step	0.05 (both models)	
Rotation, °/Step	0.018 (both models)	
Speed		
X-Axis, mm/sec	2-400 (both models)	
Y-Axis, mm/sec	2-500 (both models)	
Z-Axis (down), mm/sec	2-160 (both models)	
Z-Axis (up), mm/sec	2-110 (both models)	
Rotation, °/sec	0.36-90 (both models)	
Gripper, mm/sec	3-15 (both models)	
Electronic box		
Dimensions (hxwxd), mm	125x365x215 (both models)	
Weight, kg	5 (both models)	
Computer requirements	Windows NT, Windows 98, 2000 or XP operating systems, including a PS/2 Mouse, CD-ROM Drive, printer port, SVGA monitor with resolution at least 600x800, at least 1 serial port, ~1 GB HDD and at least 32 MB RAM (both models)	
Instrument communications	RS232 via Serial Port, CAN Input/Output Firmware download without component changes using EEPROM technology (both models)	
Certifications	CE, EMC, CSA, NRTL (both models)	

The Standard system comprises: Microlab® SWAP 420; software; base plate; stack holder for up to 4 stacks; stacker; shelving unit.

Cat. No.	Description	Price
448-000	Microlab® SWAP 420 standard system*	POA

** Please note that this does not include the cost of installation or drivers for incorporating 3rd party devices. Please contact our Technical Office on 01342 826836 to discuss your requirements in detail.*

For more information on options, accessories, compatible equipment and the SWAP 1400, please contact our Technical Office on 01342 826836.